

NOTE

This Microfiche meets the quality requirements of the American National Standard for Microfiche of Documents (ANSI PH5.9-1975). However, because of imperfections in the document from which it was made, it contains images that are illegible or difficult to read. The source document for this microfiche is the best copy that could be obtained prior to filming.

**MILITARY CONSTRUCTION AUTHORIZATION
FISCAL YEAR 1982**

HEARINGS
BEFORE THE
SUBCOMMITTEE ON MILITARY CONSTRUCTION
OF THE
COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE
NINETY-SEVENTH CONGRESS

FIRST SESSION

ON

S. 834

A BILL TO AUTHORIZE CERTAIN CONSTRUCTION AT MILITARY
INSTALLATIONS FOR FISCAL YEAR 1982, AND FOR OTHER
PURPOSES

APRIL 7, 8, MAY 4, SEPTEMBER 29, 1981

Printed for the use of the Committee on Armed Services



U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1982

83-657 O

5201-9

COMMITTEE ON ARMED SERVICES

JOHN TOWER, Texas, *Chairman*

STROM THURMOND, South Carolina	JOHN C. STENNIS, Mississippi
BARRY GOLDWATER, Arizona	HENRY M. JACKSON, Washington
JOHN W. WARNER, Virginia	HOWARD W. CANNON, Nevada
GORDON J. HUMPHREY, New Hampshire	HARRY F. BYRD, Jr., Virginia
WILLIAM S. COHEN, Maine	SAM NUNN, Georgia
ROGER W. JEPSEN, Iowa	GARY HART, Colorado
DAN QUAYLE, Indiana	J. JAMES EXON, Nebraska
JEREMIAH DENTON, Alabama	CARL LEVIN, Michigan

RHETT B. DAWSON, *Staff Director and Chief Counsel*

JAMES F. MCGOVERN, *General Counsel*

WILLIAM L. BALL III, *Chief Clerk*

SUBCOMMITTEE ON MILITARY CONSTRUCTION

STROM THURMOND, South Carolina, *Chairman*

JOHN W. WARNER, Virginia	GARY HART, Colorado
GORDON J. HUMPHREY, New Hampshire	HENRY M. JACKSON, Washington
JEREMIAH DENTON, Alabama	HOWARD W. CANNON, Nevada
	J. JAMES EXON, Nebraska

(II)

CONTENTS

CHRONOLOGICAL LIST OF WITNESSES

APRIL 7, 1981

	Page
Fliakas, Hon. Perry J., Deputy Assistant Secretary of Defense (Installations and Housing), accompanied by Robert H. Pelletreau, Jr., Deputy Assistant Secretary of Defense (Near Eastern, African and South Asian Affairs), Office of the Assistant Secretary of Defense (International Security Affairs); Col. Leon K. Pfeiffer, Director, NATO Defense Policy, European and NATO Affairs, Office of the Assistant Secretary of Defense (International Security Policy); Lt. Gen. Richard H. Groves, USA Deputy Adviser on NATO Affairs; Brig. Gen. Norman G. Delbridge, Jr., Assistant Chief of Engineers, Office of the Chief of Engineers, Department of the Army; Comdr. J. B. Leap, USN, Director, Program Development Division, Naval Facilities Engineering Command; and Comdr. William Harper, Office of Deputy Assistant Secretary of Defense (Installations and Housing)-----	60
Harper, Comdr. William, USN, Office of Deputy Assistant Secretary of Defense for Installations and Housing-----	161
Delbridge, Brig. Gen. Norman G. Jr -----	167

APRIL 8, 1981

Delbridge, Brig. Gen. Norman G. Jr., Assistant Chief of Engineering, Office of the Chief of Engineers, Department of the Army; accompanied by: Allen M. Carton, Chief, Programing Division, Office of the Assistant Chief of Engineers, Department of the Army; Col. Neal H. Walls, Commander, Health Facilities Planning Agency, Office of Surgeon General, Department of the Army; Lt. Col. Edward M. Jansen, Programing Division, Office of the Assistant Chief of Engineers, Department of the Army; Michael Halla, Environmentalist, Fort Carson, Colo.; William Cronin, Legislative Affairs, Real Estate Division, Office, Chief of Engineers-----	198
Halla, Michael, environmentalist, Fort Carson, Colo-----	214
Cronin, William, Legislative Affairs, Real Estate Division, Office, Chief of Engineers-----	217

MAY 4, 1981

Zobel Rear Adm., W.M., CEC, USN, Commander, Naval Facilities Engineering Command, Department of the Navy-----	280
Petersen Brig. Gen., F.E., USMC, Director, Facilities and Services Division, Under Deputy Chief of Staff for Installations and Logistics--	288
Murphy R.J., Director, Atlantic Liaison Division, Military Construction Programing, Naval Facilities Engineering Command, Department of the Navy-----	289
Taylor W.K., Director, Pacific Liaison Division, Military Construction Programing, Naval Facilities Command, Department of the Navy--	298
Schleicher Capt., R.J., USN, Trident Program Coordination Branch, Office of the Deputy Chief of Naval Operations (Submarine Warfare), Department of the Navy-----	306
Estes Comdr., G.B., CECC, USN, AOICC Plans and Programs, Officer in Charge of Construction Trident, Department of the Navy-----	308
Murray, Rear Adm., J.D. Jr., USN, Project Manager, Trident System Project (PM-2), Chief of Naval Material, Department of the Navy---	316

(III)

IV

Beuby Comdr., S.C., CEC, USN, Director, Indian Ocean Projects Office, Naval Facilities Engineering Command, Department of the Navy-----	Page 318
Wright Brig. Gen., Clifton D., Deputy Director of Engineering and Services; Accompanied by Brig. Gen. James P. McCarthy, Special Assistant for MX Matters; Howard Teicher, OSD/International Security Affairs; and Ralph Wanlass, Director of Engineering-----	372, 430
Melcher Hon., John, a U.S. Senator from the State of Montana-----	396
Baucus Hon., Max S., a U.S. Senator from the State of Montana-----	402
McCarthy, Brig. Gen. James P., Special Assistant for MX Matters, U.S. Air Force-----	406
Teicher, Howard, OSD/International Security Affairs-----	432

SEPTEMBER 29, 1981

Laxalt, Hon. Paul, a U.S. Senator from the State of Nevada; chairman, Subcommittee on Military Construction of the Committee on Appro- priations-----	444
Juliana, Hon. James N., Principal Deputy Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics; accompanied by Brig. Gen. Norman Delbridge, USA, Assistant Chief of Engineers, U.S. Army Corps of Engineers; Rear Adm. William Zobel, USN, commander, Naval Facilities Engineering Command; Brig. Gen. Clifton D. Wright, USAF, Deputy Director, Engineering and Services, U.S. Air Force; and Rear Adm. Frank Kelso, USN, Director, Strategic Submarines Division, OP 21, Department of the Navy-----	445
Index of Installations-----	I
Index of Installation by State-----	XI

MILITARY CONSTRUCTION AUTHORIZATION, FISCAL YEAR 1982

TUESDAY, APRIL 7, 1981

U.S. SENATE,
SUBCOMMITTEE ON MILITARY CONSTRUCTION,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

DEFENSE OVERVIEW

The subcommittee met at 9:10 a.m., pursuant to notice, in room 212, Russell Senate Office Building, Senator Strom Thurmond, chairman, presiding.

Present: Senators Thurmond and Warner.

Staff present: Rhett B. Dawson, staff director and chief counsel; James C. Smith and Edward B. Kenney, professional staff members; and Marie Fabrizio Dickinson, staff assistant.

Also present: George Kohl, assistant to Senator Humphrey; John A. Schreiber, assistant to Senator Denton; Robert Nichols, assistant to Senator Jackson; Frank Krebs, assistant to Senator Cannon; and Greg Pallas, assistant to Senator Exon.

OPENING STATEMENT BY SENATOR STROM THURMOND, CHAIRMAN

Senator THURMOND. The hearing will come to order.

This is the first of several hearings that the Subcommittee on Military Construction will hold to consider the fiscal year 1982 request for military construction authorization. The request by the Defense Department for military construction authorization, as amended by President Reagan, is included in S. 834, a copy of which follows:

[The bill S. 834, follows:]

(1)

To authorize certain construction at military installations for fiscal year 1982, and for other purposes.

MARCH 31 (legislative day, FEBRUARY 16), 1981

Mr. THURMOND (for himself and Mr. HART) (by request) introduced the following bill; which was read twice and referred to the Committee on Armed Services

To authorize certain construction at military installations for fiscal year 1982, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,
That this Act may be cited as the "Military Construction
Authorization Act, 1982".

AUTHORIZED ARMY CONSTRUCTION PROJECTS

SEC. 101. The Secretary of the Army may establish or develop military installations and facilities by acquiring, constructing, converting, rehabilitating, or installing permanent

1 or temporary public works, including land acquisition, site
2 preparation, appurtenances, utilities, and equipment, for the
3 following acquisition and construction:

4 INSIDE THE UNITED STATES

5 UNITED STATES ARMY FORCES COMMAND

6 Fort Bragg, North Carolina, \$1,600,000.
7 Fort Campbell, Kentucky, \$1,500,000.
8 Fort Carson, Colorado, \$29,690,000.
9 Fort Douglas, Utah, \$3,550,000.
10 Fort Drum, New York, \$14,480,000.
11 Fort Greely, Alaska, \$1,150,000.
12 Fort Hood, Texas, \$15,530,000.
13 Fort Irwin, California, \$43,350,000.
14 Fort Lewis, Washington, \$6,700,000.
15 Fort George G. Meade, Maryland, \$3,350,000.
16 Fort Polk, Louisiana, \$630,000.
17 Fort Riley, Kansas, \$4,640,000.
18 Fort Stewart/Hunter Army Air Field, Georgia,
19 \$28,500,000.
20 Fort J. M. Wainwright, Alaska \$1,200,000.
21 Presidio of San Francisco, California, \$520,000.
22 UNITED STATES ARMY TRAINING AND DOCTRINE
23 COMMAND
24 Carlisle Barracks, Pennsylvania, \$620,000.
25 Fort Belvoir, Virginia, \$3,600,000.

- 1 Fort Benjamin Harrison, Indiana, \$5,120,000.
- 2 Fort Benning, Georgia, \$1,960,000.
- 3 Fort Bliss, Texas, \$4,700,000.
- 4 Fort Dix, New Jersey, \$9,440,000.
- 5 Fort Eustis, Virginia, \$8,280,000.
- 6 Fort Gordon, Georgia, \$620,000.
- 7 Fort Knox, Kentucky, \$620,000.
- 8 Fort Leavenworth, Kansas, \$7,370,000.
- 9 Fort Lee, Virginia, \$9,870,000.
- 10 Fort McClellan, Alabama, \$930,000.
- 11 Fort Pickett, Virginia, \$640,000.
- 12 Fort Rucker, Alabama, \$5,210,000.
- 13 Fort Sill, Oklahoma, \$4,650,000.
- 14 Fort Story, Virginia, \$1,050,000.
- 15 UNITED STATES ARMY MATERIEL DEVELOPMENT AND
- 16 READINESS COMMAND
- 17 Aberdeen Proving Ground, Maryland, \$4,200,000.
- 18 Army Materials and Mechanics Research Center, Mas-
- 19 sachusetts, \$1,200,000.
- 20 Corpus Christi Army Depot, Texas, \$840,000.
- 21 Crane Army Ammunition Plant Activity, Indiana,
- 22 \$540,000.
- 23 Fort Monmouth, New Jersey, \$26,000,000.
- 24 Lexington-Blue Grass Army Depot, Kentucky,
- 25 \$1,450,000.

- 1 Red River Army Depot, Texas, \$2,720,000.
- 2 Redstone Arsenal, Alabama, \$4,750,000.
- 3 Rock Island Arsenal, Illinois, \$4,000,000.
- 4 Savanna Army Ammunition Depot, Illinois,
- 5 \$3,600,000.
- 6 Tobyhanna Army Depot, Pennsylvania \$1,800,000.
- 7 Tooele Army Depot, Utah, \$1,500,000.

8 AMMUNITION FACILITIES

- 9 Holston Army Ammunition Plant, Tennessee,
- 10 \$2,627,000.
- 11 Indiana Army Ammunition Plant, Indiana, \$2,453,000.
- 12 Iowa Army Ammunition Plant, Iowa, \$18,599,000.
- 13 Kansas Army Ammunition Plant, Kansas, \$4,344,000.
- 14 Lake City Army Ammunition Plant, Missouri,
- 15 \$604,000.
- 16 Longhorn Army Ammunition Plant, Texas, \$257,000.
- 17 Milan Army Ammunition Plant, Tennessee,
- 18 \$1,984,000.
- 19 Newport Army Ammunition Plant, Indiana, \$728,000.
- 20 Radford Army Ammunition Plant, Virginia,
- 21 \$17,390,000.

22 MILITARY DISTRICT OF WASHINGTON

- 23 Cameron Station, Virginia, \$640,000.
- 24 Fort Myer, Virginia, \$2,570,000.

1 UNITED STATES ARMY COMMUNICATIONS COMMAND

2 Fort Ritchie, Maryland, \$920,000.

3 UNITED STATES MILITARY ACADEMY

4 United States Military Academy, West Point, New
5 York, \$7,700,000.

6 UNITED STATES ARMY HEALTH SERVICES COMMAND

7 Fort Detrick, Maryland, \$1,450,000.

8 Walter Reed Army Medical Center, District of Colum-
9 bia, \$6,250,000.

10 MILITARY TRAFFIC MANAGEMENT COMMAND

11 Bayonne Terminal, New Jersey, \$2,800,000.

12 Sunny Point Army Terminal, North Carolina,
13 \$880,000.

14 CONUS VARIOUS

15 Various Locations, \$1,950,000.

16 OUTSIDE THE UNITED STATES

17 EIGHTH UNITED STATES ARMY, KOREA

18 Various Locations, \$62,320,000.

19 UNITED STATES ARMY FORCES COMMAND, OVERSEAS

20 Egypt, \$36,000,000.

21 KWAJALEIN MISSILE RANGE

22 National Missile Range, \$3,240,000.

23 UNITED STATES ARMY, JAPAN

24 Kawakami, Japan, \$1,950,000.

1 UNITED STATES ARMY, EUROPE

2 Germany, \$339,190,000.

3 Turkey, \$20,800,000.

4 UNITED STATES ARMY INTELLIGENCE AND SECURITY

5 COMMAND

6 Korea, \$1,550,000.

7 Turkey, \$2,550,000.

8 EMERGENCY CONSTRUCTION

9 SEC. 102. The Secretary of the Army may establish or
10 develop installations and facilities by proceeding with con-
11 struction made necessary by changes in missions and
12 responsibilities which have been occasioned by (1) unforeseen
13 security considerations, (2) new weapons developments, (3)
14 new and unforeseen research and development requirements,
15 (4) improved production schedules, or (5) revisions in the
16 tasks or functions assigned to a military installation or facility
17 or for environmental considerations, if the Secretary of De-
18 fense determines that deferral of such construction for inclu-
19 sion in the next Military Construction Authorization Act
20 would be inconsistent with interests of national security and,
21 in connection therewith, may acquire, construct, convert, re-
22 habilitate, or install permanent or temporary public works,
23 including land acquisition, site preparation, appurtenances,
24 utilities, and equipment in the total amount of \$20,000,000.
25 The Secretary of the Army, or the Secretary's designee,

1 shall notify the Committees on Armed Services of the Senate
2 and House of Representatives, immediately upon reaching a
3 final decision to implement, of the cost of construction of any
4 public work undertaken under this section, including those
5 real estate actions pertaining thereto. This authorization
6 shall expire on October 1, 1982, or on the date of the enact-
7 ment of the Military Construction Authorization Act for fiscal
8 year 1983, whichever is later, except for those public works
9 projects concerning which the Committees on Armed Serv-
10 ices of the Senate and House of Representatives have been
11 notified pursuant to this section prior to such date.

12

MINOR CONSTRUCTION

13 SEC. 103. The Secretary of the Army is authorized to
14 accomplish minor construction projects under section 2674 of
15 title 10, United States Code, in the amount of \$34,150,000.

16 DEFICIENCY AUTHORIZATION FOR FISCAL YEAR 1980

17

PROJECTS

18 SEC. 104. Section 602(1) of the Military Construction
19 Authorization Act, 1980 (Public Law 96-125; 93 Stat. 941),
20 is amended to read as follows:

21 "(1) for title I: inside the United States
22 \$591,785,000; outside the United States
23 \$162,950,000; minor construction \$52,270,000; for a
24 total of \$807,005,000."

1 DEFICIENCY AUTHORIZATION FOR FISCAL YEAR 1981

2 PROJECTS

3 SEC. 105. Section 602(1) of the Military Construction
4 Authorization Act, 1981 (Public Law 96-418; 94 Stat.
5 1768), is amended to read as follows:

6 "(1) for title I: inside the United States
7 \$590,440,000; outside the United States
8 \$248,140,000; minor construction \$44,560,000; for a
9 total of \$883,140,000."

10 TITLE II—NAVY

11 AUTHORIZED NAVY CONSTRUCTION PROJECTS

12 SEC. 201 The Secretary of the Navy may establish or
13 develop military installations and facilities by acquiring, con-
14 structing, converting, rehabilitating, or installing permanent
15 or temporary public works, including land acquisition, site
16 preparation, appurtenances, utilities, and equipment for the
17 following acquisition and construction:

18 INSIDE THE UNITED STATES

19 UNITED STATES MARINE CORPS

20 Marine Corps Logistics Base, Barstow, California,
21 \$4,700,000.

22 Marine Corps Base, Camp Lejeune, North Carolina,
23 \$22,150,000.

24 Marine Corps Base, Camp Pendleton, California,
25 \$18,550,000.

1 Marine Corps Air Station, Cherry Point, North Caroli-
2 na, \$3,700,000.

3 Marine Corps Air Station, El Toro, California,
4 \$12,400,000.

5 Marine Corps Air Station, Kaneohe Bay, Hawaii,
6 \$2,650,000.

7 Marine Corps Air Station, New River, North Carolina,
8 \$5,060,000.

9 Marine Corps Bases Pacific, Camp H. M. Smith, Oahu,
10 Hawaii, \$2,900,000.

11 Marine Corps Recruit Depot, Parris Island, South
12 Carolina, \$4,100,000.

13 Marine Corps Development and Education Command,
14 Quantico, Virginia, \$13,560,000.

15 Marine Corps Recruit Depot, San Diego, California,
16 \$1,300,000.

17 Marine Corps Air Station (Helicopter), Tustin, Califor-
18 nia, \$7,600,000.

19 Marine Corps Air-Ground Combat Center, Twentynine
20 Palms, California, \$5,450,000.

21 Marine Corps Air Station, Yuma, Arizona, \$3,450,000.

22 OFFICE OF NAVAL RESEARCH

23 Naval Ocean Research and Development Activity, Bay
24 St. Louis, Mississippi, \$5,900,000.

1 Naval Research Laboratory, Washington, District of
2 Columbia, \$6,800,000.

3 CHIEF OF NAVAL OPERATIONS

4 Naval Submarine Base, Bangor, Bremerton, Washing-
5 ton, \$23,100,000.

6 Naval Submarine Support Base, Kings Bay, Kingsland,
7 Georgia, \$65,060,000.

8 COMMANDER IN CHIEF, UNITED STATES ATLANTIC FLEET

9 Naval Air Station, Brunswick, Maine, \$15,700,000.

10 Naval Air Station, Cecil Field, Florida, \$21,700,000.

11 Naval Station, Charleston, South Carolina, \$5,660,000.

12 Naval Submarine Base, New London, Groton, Con-
13 necticut, \$15,650,000.

14 Naval Submarine Support Facility, New London,
15 Groton, Connecticut, \$3,300,000.

16 Naval Air Station, Jacksonville, Florida, \$6,380,000.

17 Naval Amphibious Base, Little Creek, Virginia,
18 \$27,950,000.

19 Naval Station, Mayport, Florida, \$2,000,000.

20 Naval Station, Norfolk, Virginia, \$46,100,000.

21 Naval Air Station, Oceana, Virginia, \$8,600,000.

22 COMMANDER IN CHIEF, UNITED STATES PACIFIC FLEET

23 Naval Station, Adak, Alaska, \$1,550,000.

24 Naval Air Station, Alameda, California, \$7,500,000.

25 Naval Air Station, Barbers Point, Hawaii, \$9,650,000.

- 1 Naval Air Station, Fallon, Nevada, \$8,300,000.
- 2 Naval Air Station, Lemoore, California, \$2,200,000.
- 3 Naval Station, Long Beach, California, \$22,000,000.
- 4 Naval Air Station, Moffett Field, California,
- 5 \$2,000,000.
- 6 Naval Air Station, North Island, California,
- 7 \$13,240,000.
- 8 Naval Station, Pearl Harbor, Hawaii, \$9,920,000.
- 9 Naval Submarine Base, Pearl Harbor, Hawaii,
- 10 \$13,350,000.
- 11 NAVAL EDUCATION AND TRAINING COMMAND
- 12 Naval Air Station, Chase Field, Texas, \$2,800,000.
- 13 Fleet Combat Training Center, Atlantic, Dam Neck,
- 14 Virginia, \$4,600,000.
- 15 Naval Training Center, Great Lakes, Illinois,
- 16 \$11,800,000.
- 17 Naval Explosive Ordnance Disposal School, Indian
- 18 Head, Maryland, \$3,300,000.
- 19 Naval Air Station, Memphis, Millington, Tennessee,
- 20 \$11,000,000.
- 21 Naval Education and Training Center, Newport, Rhode
- 22 Island, \$1,900,000.
- 23 Naval Justice School, Newport, Rhode Island,
- 24 \$1,500,000.
- 25 Naval Training Center, Orlando, Florida, \$9,330,000.

- 1 Naval Air Station, Pensacola, Florida, \$5,100,000.
2 Fleet Combat Training Center, Pacific, San Diego,
3 California, \$6,800,000.
4 Naval Training Center, San Diego, California,
5 \$1,150,000.

6 BUREAU OF MEDICINE AND SURGERY

- 7 Naval Regional Medical Clinic, Annapolis, Maryland,
8 \$3,560,000.
9 National Naval Medical Center, Bethesda, Maryland,
10 \$1,100,000.

11 NAVAL MATERIAL COMMAND

- 12 Pacific Missile Range Facility, Barking Sands, Hawaii,
13 \$8,100,000.
14 David W. Taylor Naval Ship Research and Develop-
15 ment Center, Bethesda, Maryland, \$5,050,000.
16 Puget Sound Naval Shipyard, Bremerton, Washington,
17 \$157,300,000.
18 Charleston Naval Shipyard, Charleston, South Caroli-
19 na, \$7,050,000.
20 Naval Supply Center, Charleston, South Carolina,
21 \$4,200,000.
22 Naval Weapons Station, Charleston, South Carolina,
23 \$1,390,000.
24 Naval Air Rework Facility, Cherry Point, North Caroli-
25 na, \$2,800,000.

- 1 Naval Weapons Center, China Lake, California,
2 \$4,400,000.
- 3 Naval Weapons Station, Concord, California,
4 \$1,280,000.
- 5 Naval Weapons Support Center, Crane, Indiana,
6 \$3,500,000.
- 7 Naval Surface Weapons Center, Dahlgren, Virginia,
8 \$4,900,000.
- 9 Naval Construction Battalion Center, Gulfport, Missis-
10 sippi, \$680,000.
- 11 Naval Ordnance Station, Indian Head, Maryland,
12 \$26,100,000.
- 13 Naval Air Rework Facility, Jacksonville, Florida,
14 \$25,620,000.
- 15 Naval Undersea Warfare Engineering Station, Keyport,
16 Washington, \$8,300,000.
- 17 Portsmouth Naval Shipyard, Kittery, Maine,
18 \$2,900,000.
- 19 Naval Air Engineering Center, Lakehurst, New Jersey,
20 \$3,178,000.
- 21 Naval Underwater Systems Center Detachment, New
22 London, Connecticut, \$3,100,000.
- 23 Naval Air Rework Facility, Norfolk, Virginia,
24 \$18,650,000.
- 25 Naval Supply Center, Norfolk, Virginia, \$6,200,000.

- 1 Naval Supply Center, Oakland, California, \$2,420,000.
- 2 Naval Air Test Center, Patuxent River, Maryland,
- 3 \$3,600,000.
- 4 Naval Supply Center, Pearl Harbor, Hawaii, \$520,000.
- 5 Navy Public Works Center, Pearl Harbor, Hawaii,
- 6 \$13,700,000.
- 7 Pearl Harbor Naval Shipyard, Pearl Harbor, Hawaii,
- 8 \$14,100,000.
- 9 Navy Public Works Center, Pensacola, Florida,
- 10 \$2,800,000.
- 11 Philadelphia Naval Shipyard, Philadelphia, Pennsylv-
- 12 nia, \$3,030,000.
- 13 Norfolk Naval Shipyard, Portsmouth, Virginia,
- 14 \$6,050,000.
- 15 Naval Air Rework Facility, North Island, San Diego,
- 16 California, \$1,150,000.
- 17 Naval Supply Center, San Diego, California,
- 18 \$2,350,000.
- 19 Navy Public Works Center, San Francisco, California,
- 20 \$2,100,000.
- 21 Naval Weapons Station, Seal Beach, California,
- 22 \$520,000.
- 23 Naval Air Propulsion Center, Trenton, New Jersey,
- 24 \$720,000.

1 Mare Island Naval Shipyard, Vallejo, California,
2 \$2,600,000.

3 Naval Surface Weapons Center Detachment, White
4 Oak, Maryland, \$4,450,000.

5 NAVAL TELECOMMUNICATIONS COMMAND

6 Naval Communications Station, Stockton, California,
7 \$830,000.

8 Naval Communication Area Master Station Eastern Pa-
9 cific, Honolulu, Hawaii, \$2,300,000.

10 NAVAL SECURITY GROUP COMMAND

11 Naval Security Group Activity, Adak, Alaska,
12 \$5,510,000.

13 OUTSIDE THE UNITED STATES

14 CHIEF OF NAVAL OPERATIONS

15 Defense Installations, Mariana Islands, \$32,000,000.

16 Circle Transit Station, Blenheim, New Zealand,
17 \$1,250,000.

18 COMMANDER IN CHIEF, UNITED STATES ATLANTIC FLEET

19 Naval Facility, Brawdy, Wales, United Kingdom,
20 \$2,800,000.

21 Naval Station, Keflavik, Iceland, \$2,350,000.

22 COMMANDER IN CHIEF, UNITED STATES PACIFIC FLEET

23 Naval Air Station, Cubi Point, Republic of the Philip-
24 pines, \$12,150,000.

1 Naval Support Facility, Diego Garcia, Indian Ocean,
2 \$122,750,000.

3 Naval Activities, Kenya, \$26,000,000.

4 Naval Activities, Somalia, \$24,000,000.

5 Naval Ship Repair Facility, Subic Bay, Republic of the
6 Philippines, \$580,000.

7 Naval Station, Subic Bay, Republic of the Philippines,
8 \$6,800,000.

9 Fleet Activities, Yokosuka, Japan, \$1,250,000.

10 UNITED STATES NAVAL FORCES EUROPE

11 Naval Station, Rota, Spain, \$4,300,000.

12 Naval Air Facility, Sigonella, Italy, \$17,100,000.

13 NAVAL TELECOMMUNICATIONS COMMAND

14 Naval Communications Station, Keflavik, Iceland,
15 \$4,000,000.

16 Naval Communications Station, Ponce, Puerto Rico,
17 \$1,600,000

18 NAVAL SECURITY GROUP COMMAND

19 Naval Security Group Activity, Edzell, Scotland,
20 United Kingdom, \$3,515,000.

21 EMERGENCY CONSTRUCTION

22 SEC. 202. The Secretary of the Navy may establish or
23 develop installations and facilities by proceeding with con-
24 struction made necessary by changes in missions and
25 responsibilities which have been occasioned by (1) unforeseen

1 security considerations, (2) new weapons developments, (3)
2 new and unforeseen research and development requirements,
3 (4) improved production schedules, or (5) revisions in the
4 tasks or functions assigned to a military installation or facility
5 or for environmental considerations, if the Secretary of De-
6 fense determines that deferral of such construction for inclu-
7 sion in the next Military Construction Authorization Act
8 would be inconsistent with interests of national security and,
9 in connection therewith, may acquire, construct, convert, re-
10 habilitate, or install permanent or temporary public works,
11 including land acquisition, site preparation, appurtenances,
12 utilities, and equipment in the total amount of \$20,000,000.
13 The Secretary of the Navy, or the Secretary's designee, shall
14 notify the Committees on Armed Services of the Senate and
15 House of Representatives, immediately upon reaching a final
16 decision to implement, of the cost of construction of any
17 public work undertaken under this section, including those
18 real estate actions pertaining thereto. This authorization
19 shall expire on October 1, 1982, or on the date of the enact-
20 ment of the Military Construction Authorization Act for fiscal
21 year 1983, whichever is later, except for those public works
22 projects concerning which the Committees on Armed Serv-
23 ices of the Senate and House of Representatives have been
24 notified pursuant to this section prior to such date.

1 MINOR CONSTRUCTION

2 SEC. 203. The Secretary of the Navy is authorized to
3 accomplish minor construction projects under section 2674 of
4 title 10, United States Code, in the amount of \$34,270,000.

5 NAVAL AIR STATION, KEY WEST, FLORIDA

6 SEC. 204. The Secretary of the Navy is authorized to
7 acquire lands or interests in lands to ensure unhampered air
8 operations at the Naval Air Station, Key West, Florida, by
9 exchange of Government-owned lands of equal value.

10 TITLE III—AIR FORCE

11 AUTHORIZED AIR FORCE CONSTRUCTION PROJECTS

12 SEC. 301. The Secretary of the Air Force may establish
13 or develop military installations and facilities by acquiring,
14 constructing, converting, rehabilitating, or installing perma-
15 nent or temporary public works, including land acquisition,
16 site preparation, appurtenances, utilities, and equipment, for
17 the following acquisition and construction:

18 INSIDE THE UNITED STATES

19 AIR FORCE LOGISTICS COMMAND

20 Kelly Air Force Base, Texas, \$3,550,000.
21 McClellan Air Force Base, California, \$10,930,000.
22 Robins Air Force Base, Georgia, \$6,890,000.
23 Tinker Air Force Base, Oklahoma, \$31,520,000.
24 Wright-Patterson Air Force Base, Ohio, \$120,150,000.

1 AIR FORCE SYSTEMS COMMAND

2 Arnold Engineering Development Center, Tennessee,

3 \$1,690,000.

4 Brooks Air Force Base, Texas, \$3,110,000.

5 Buckley Air National Guard Base, Colorado,

6 \$14,000,000.

7 Cape Canaveral Air Force Station, Florida,

8 \$1,810,000.

9 Eglin Air Force Base, Florida, \$4,100,000.

10 Los Angeles Air Force Station, California, \$2,370,000.

11 Patrick Air Force Base, Florida, \$2,950,000.

12 Sunnyvale Air Force Station, California, \$7,250,000.

13 AIR TRAINING COMMAND

14 Chanute Air Force Base, Illinois, \$4,120,000.

15 Columbus Air Force Base, Mississippi, \$510,000.

16 Keesler Air Force Base, Mississippi, \$2,280,000.

17 Laughlin Air Force Base, Texas, \$1,090,000.

18 Lowry Air Force Base, Colorado, \$2,840,000.

19 Mather Air Force Base, California, \$1,520,000.

20 Randolph Air Force Base, Texas, \$3,360,000.

21 Reese Air Force Base, Texas, \$1,140,000.

22 Sheppard Air Force Base, Texas, \$10,745,000.

23 Vance Air Force Base, Oklahoma, \$2,840,000.

24 Williams Air Force Base, Arizona, \$2,600,000.

1 ALASKAN AIR COMMAND

2 Eielson Air Force Base, Alaska, \$1,700,000.

3 Elmendorf Air Force Base, Alaska, \$7,240,000.

4 King Salmon Airport, Alaska, \$8,050,000.

5 Various Locations, Alaska, \$42,750,000.

6 MILITARY AIRLIFT COMMAND

7 Andrews Air Force Base, Maryland, \$4,940,000.

8 Bolling Air Force Base, District of Columbia,
9 \$1,280,000.

10 Charleston Air Force Base, South Carolina, \$630,000.

11 Dover Air Force Base, Delaware, \$1,180,000.

12 Kirtland Air Force Base, New Mexico, \$7,510,000.

13 Little Rock Air Force Base, Arkansas, \$790,000.

14 McChord Air Force Base, Washington, \$1,180,000.

15 McGuire Air Force Base, New Jersey, \$2,680,000.

16 Norton Air Force Base, California, \$9,567,000.

17 Pope Air Force Base, North Carolina, \$5,510,000.

18 Scott Air Force Base, Illinois, \$5,450,000.

19 Travis Air Force Base, California, \$3,790,000.

20 NATIONAL MILITARY COMMAND CENTER

21 Pentagon Building, Virginia, \$3,000,000.

22 NORTH AMERICAN AIR DEFENSE COMMAND

23 NORAD Cheyenne Mountain Complex, Colorado,

24 \$11,000,000.

STRATEGIC AIR COMMAND

Plattsburgh Air Force Base, New York, \$890,000.

- 1 Rickenbacker Air Force Base, Indiana, \$540,000.
- 2 Vandenberg Air Force Base, California, \$9,000,000.
- 3 Whiteman Air Force Base, Missouri, \$1,090,000.
- 4 Wurtsmith Air Force Base, Michigan, \$2,270,000.

TACTICAL AIR COMMAND

- 6 Bergstrom Air Force Base, Texas, \$2,580,000.
- 7 Cannon Air Force Base, New Mexico, \$2,700,000.
- 8 Davis-Monthan Air Force Base, Arizona, \$12,460,000.
- 9 England Air Force Base, Louisiana, \$2,170,000.
- 10 George Air Force Base, California, \$2,460,000.
- 11 Holloman Air Force Base, New Mexico, \$7,480,000.
- 12 Homestead Air Force Base, Florida, \$2,480,000.
- 13 Hurlburt Field, Florida, \$510,000.
- 14 Langley Air Force Base, Virginia, \$10,220,000.
- 15 Luke Air Force Base, Arizona, \$520,000.
- 16 MacDill Air Force Base, Florida, \$16,960,000.
- 17 Moody Air Force Base, Georgia, \$650,000.
- 18 Mountain Home Air Force Base, Idaho, \$3,410,000.
- 19 Myrtle Beach Air Force Base, South Carolina,
20 \$630,000.
- 21 Nellis Air Force Base, Nevada, \$6,870,000.
- 22 Seymour-Johnson Air Force Base, North Carolina,
23 \$2,950,000
- 24 Tyndall Air Force Base, Florida, \$510,000.

- 1 UNITED STATES AIR FORCE ACADEMY
- 2 United States Air Force Academy, Colorado, \$510,000.
- 3 M-X
- 4 Various Locations, \$366,000,000.
- 5 SPECIAL PROJECT
- 6 Various Locations, Special Project, \$57,600,000.
- 7 OUTSIDE THE UNITED STATES
- 8 MILITARY AIRLIFT COMMAND
- 9 Lajes Field, Portugal, \$49,570,000.
- 10 Rhein-Main Air Base, Germany, \$1,500,000.
- 11 PACIFIC AIR FORCES
- 12 Clark Air Base, Republic of the Philippines,
- 13 \$9,330,000.
- 14 Diego Garcia Air Base, Indian Ocean, \$114,990,000.
- 15 Hampyong Communication Station, Korea, \$1,540,000.
- 16 Hunghae Communication Station, Korea, \$1,500,000.
- 17 Kadena Air Base, Japan, \$17,490,000.
- 18 Kunsan Air Base, Korea, \$12,380,000.
- 19 Kwang-Ju Air Base, Korea, \$6,650,000.
- 20 Osan Air Base, Korea, \$26,720,000.
- 21 Various Locations, \$1,250,000.
- 22 STRATEGIC AIR COMMAND
- 23 Thule Air Base, Greenland, \$1,600,000.
- 24 UNITED STATES AIR FORCES IN EUROPE
- 25 Egypt, Various Locations, \$70,400,000.

- 1 Germany, Various Locations, \$16,780,000.
- 2 San Vito Air Station, Italy, \$1,540,000.
- 3 Camp New Amsterdam, Netherlands, \$4,860,000.
- 4 Hellenikon, Greece, \$800,000.
- 5 Oman, Various Locations, \$78,480,000.
- 6 Spain, Various Locations, \$5,390,000.
- 7 Incirlik Air Base, Turkey, \$1,160,000.
- 8 Turkey, Various Locations, \$4,000,000.
- 9 United Kingdom, Various Locations, \$26,190,000.
- 10 Various Locations, \$145,424,000.

11 EMERGENCY CONSTRUCTION

12 SEC. 302. The Secretary of the Air Force may establish
 13 or develop installations and facilities by proceeding with con-
 14 struction made necessary by changes in missions and
 15 responsibilities which have been occasioned by (1) unforeseen
 16 security considerations, (2) new weapons developments, (3)
 17 new and unforeseen research and development requirements,
 18 (4) improved production schedules, or (5) revisions in the
 19 tasks or functions assigned to a military installation or facility
 20 or for environmental considerations, if the Secretary of De-
 21 fense determines that deferral of such construction for inclu-
 22 sion in the next Military Construction Authorization Act
 23 would be inconsistent with interests of national security and,
 24 in connection therewith, may acquire, construct, convert, re-
 25 habilitate, or install permanent or temporary public works,

1 including land acquisition, site preparation, appurtenances,
2 utilities, and equipment in the total amount of \$20,000,000.
3 The Secretary of the Air Force, or the Secretary's designee,
4 shall notify the Committees on Armed Services of the Senate
5 and House of Representatives, immediately upon reaching a
6 final decision to implement, of the cost of construction of any
7 public work undertaken under this section, including those
8 real estate actions pertaining thereto. This authorization
9 shall expire on October 1, 1982, or on the date of the enact-
10 ment of the Military Construction Authorization Act of fiscal
11 year 1983, whichever is later, except for those public works
12 projects concerning which the Committees on Armed Serv-
13 ices of the Senate and House of Representatives have been
14 notified pursuant to this section prior to such date.

15

MINOR CONSTRUCTION

16 SEC. 303. The Secretary of the Air Force is authorized
17 to accomplish minor construction projects under section 2674
18 of title 10, United States Code, in the amount of
19 \$28,680,000.

20

DEFICIENCY AUTHORIZATION FOR FISCAL YEAR 1977

21

PROJECTS

22 SEC. 304. Section 602(3) of the Military Construction
23 Authorization Act, 1977 (Public Law 94-431; 90 Stat.
24 1361) is amended to read as follows:

1 “(3) for title III: inside the United States
2 \$744,759,000; outside the United States \$56,650,000;
3 for a total of \$801,409,000.”.

4 DEFICIENCY AUTHORIZATION FOR FISCAL YEAR 1979

5 PROJECTS

6 SEC. 305. Section 602(3) of the Military Construction
7 Authorization Act, 1979 (Public Law 95-356; 92 Stat. 580),
8 as amended, is amended to read as follows:

9 “(3) for title III: inside the United States
10 \$505,786,000; outside the United States \$68,963,000;
11 minor construction \$30,721,000; for a total of
12 \$605,470,000.”.

13 DEFICIENCY AUTHORIZATION FOR FISCAL YEAR 1980

14 PROJECTS

15 SEC. 306. Section 602(3) of the Military Construction
16 Authorization Act, 1980 (Public Law 96-125; 93 Stat. 942),
17 is amended to read as follows:

18 “(3) for title III: inside the United States
19 \$448,380,000; outside the United States \$87,620,000;
20 minor construction \$29,310,000; for a total of
21 \$565,310,000.”.

1 DEFICIENCY AUTHORIZATION FOR FISCAL YEAR 1981

2 PROJECTS

3 SEC. 307. Section 602(3) of the Military Construction
4 Authorization Act, 1981 (Public Law 96-418; 94 Stat.
5 1768), is amended to read as follows:

6 “(3) for title III: inside the United States
7 \$567,327,000; outside the United States
8 \$146,537,000; minor construction \$25,420,000; for a
9 total of \$739,284,000.”.

10 TITLE IV—DEFENSE AGENCIES

11 AUTHORIZED CONSTRUCTION PROJECTS FOR THE

12 DEFENSE AGENCIES

13 SEC. 401. The Secretary of Defense may establish or
14 develop military installations and facilities by acquiring, con-
15 structing, converting, rehabilitating, or installing permanent
16 or temporary public works, including land acquisition, site
17 preparation, appurtenances, utilities, and equipment, for de-
18 fense agencies for the following acquisition and construction:

19 INSIDE THE UNITED STATES

20 DEFENSE INTELLIGENCE AGENCY

21 Bolling Air Force Base, District of Columbia,
22 \$72,500,000.

23 DEFENSE LOGISTIC AGENCY

24 Defense Construction Supply Center, Columbus, Ohio,
25 \$680,000.

- 1 Defense Depot, Tracy, California, \$554,000.
- 2 Defense Depot, Mechanicsburg, Pennsylvania,
- 3 \$2,050,000.
- 4 Defense Depot, Memphis, Tennessee, \$5,220,000.
- 5 Defense Depot, Ogden, Utah, \$2,670,000.
- 6 Defense Fuel Support Point, Grand Forks, North
- 7 Dakota, \$1,690,000.
- 8 Defense Fuel Support Point, Pearl City, Hawaii,
- 9 \$3,600,000.
- 10 Defense General Supply Center, Richmond, Virginia,
- 11 \$5,600,000.
- 12 Defense Property Disposal Office, Fort Bragg, North
- 13 Carolina, \$2,800,000.
- 14 DEFENSE MAPPING AGENCY
- 15 Aerospace Center, St. Louis, Missouri, \$10,750,000.
- 16 NATIONAL SECURITY AGENCY
- 17 Fort George G. Meade, Maryland, \$57,596,000.
- 18 OFFICE OF THE SECRETARY OF DEFENSE
- 19 Classified Activity, Classified Location, \$10,000,000.
- 20 Classified Activity, Fort Belvoir, Virginia, \$2,100,000.
- 21 OUTSIDE THE UNITED STATES
- 22 DEFENSE COMMUNICATIONS AGENCY
- 23 Patch Barracks, Vaihingen, Germany, \$900,000.

1 DEFENSE LOGISTICS AGENCY

2 Defense Fuel Support Point, Wake Island,
3 \$14,500,000.

4 Defense Property Disposal Office, Kaiserslautern, Ger-
5 many, \$1,480,000.

6 Various Locations, Korea, \$29,000,000.

7 OFFICE OF THE SECRETARY OF DEFENSE

8 Classified Activity, Classified Location, \$2,000,000.

9 DEPARTMENT OF DEFENSE DEPENDENTS SCHOOLS

10 Croughton Royal Air Force Station, United Kingdom,
11 \$13,700,000.

12 Dexheim, Germany, \$980,000.

13 Fulda, Germany, \$10,500,000.

14 Landstuhl Air Base, Germany, \$6,140,000.

15 Misawa Air Base, Japan, \$6,180,000.

16 Naval Station, Guantanamo Bay, Cuba, \$5,900,000.

17 Pusan, Korea, \$2,460,000

18 Schwaebisch Hall, Germany, \$780,000.

19 Seoul, Korea, \$4,350,000.

20 Vilseck, Germany, \$9,920,000.

21 Yokota Air Base, Japan, \$3,290,000.

22 EMERGENCY CONSTRUCTION

23 SEC. 402. The Secretary of Defense may establish or
24 develop installations and facilities which he determines to be
25 vital to the security of the United States and, in connection

1 therewith, may acquire, construct, convert, rehabilitate, or
2 install permanent or temporary public works, including land
3 acquisition, site preparation, appurtenances, utilities, and
4 equipment in the total amount of \$30,000,000. The Secre-
5 tary of Defense, or the Secretary's designee, shall notify the
6 Committees on Armed Services of the Senate and House of
7 Representatives, immediately upon reaching a final decision
8 to implement, of the cost of construction of any public work
9 undertaken under this section, including real estate actions
10 pertaining thereto.

11 MINOR CONSTRUCTION

12 SEC. 403. The Secretary of Defense is authorized to
13 accomplish minor construction projects under section 2674 of
14 title 10, United States Code, in the amount of \$6,210,000.

15 TITLE V—NORTH ATLANTIC TREATY

16 ORGANIZATION INFRASTRUCTURE

17 SEC. 501. The Secretary of Defense is authorized to
18 incur obligations in amounts not to exceed \$425,000,000 for
19 the United States share of the cost of multilateral programs
20 for the acquisition or construction of military facilities and
21 installations (including international military headquarters)
22 for the collective defense of the North Atlantic Treaty Area.
23 Within thirty days after the end of each calendar-year quar-
24 ter, the Secretary of Defense shall furnish to the Committees
25 on Armed Services and on Appropriations of the Senate and

1 House of Representatives a description of obligations in-
2 curred by the United States for the United States share of
3 the cost of such multilateral programs.

4 TITLE VI—MILITARY FAMILY HOUSING AND
5 HOMEOWNERS ASSISTANCE PROGRAM

6 AUTHORIZATION TO CONSTRUCT OR ACQUIRE HOUSING

7 SEC. 601. (a) The Secretary of Defense, or the Secre-
8 tary's designee, is authorized to construct or acquire sole in-
9 terest in existing family housing units in the numbers and at
10 the locations hereinafter named, but no family housing con-
11 struction shall be commenced at any such location in the
12 United States until the Secretary shall have consulted with
13 the Secretary of Housing and Urban Development as to the
14 availability of suitable private housing at such location. If
15 agreement cannot be reached with respect to the availability
16 of suitable private housing at any location, the Secretary of
17 Defense shall notify the Committees on Armed Services of
18 the Senate and House of Representatives, in writing, of such
19 difference of opinion, and no contract for construction at such
20 location shall be entered into for a period of thirty days after
21 such notification has been given. This authority shall include
22 the authority to acquire land, and interests in land, by gift,
23 purchase, exchange of Government-owned land, or other-
24 wise. The Secretary of Defense is authorized to acquire less
25 than sole interest in existing family housing units in foreign

1 countries when determined to be in the best interests of the
2 Government.

3 (b) With respect to the family housing units authorized
4 to be constructed by this section, the Secretary of Defense is
5 authorized to acquire sole interest in privately owned or De-
6 partment of Housing and Urban Development-held family
7 housing units in lieu of constructing all or a portion of the
8 family housing authorized by this section, if the Secretary, or
9 the Secretary's designee, determines such action to be in the
10 best interests of the United States, but any family housing
11 units acquired under authority of this subsection shall not
12 exceed the cost limitations specified in this section for the
13 project nor the limitations on size specified in section 2684 of
14 title 10, United States Code. In no case may family housing
15 units be acquired under this subsection through the exercise
16 of eminent domain authority, and in no case may family hous-
17 ing units other than those authorized by this section be ac-
18 quired in lieu of construction unless the acquisition of such
19 units is hereafter specifically authorized by law.

20 (c) Family Housing units:

21 Marine Corps Air Station, El Toro, California,
22 two hundred and twelve units, \$15,540,000.

23 Fort Irwin, California, two hundred and fifty-four
24 units, \$21,055,000.

1 Naval Complex, San Diego, California, two hun-
2 dred and ninety units, \$25,350,000.

3 Naval Submarine Support Base, Kings Bay,
4 Georgia, one hundred and sixty-five units,
5 \$12,740,000.

6 Fort Drum, New York, two hundred and thirty-
7 two units, \$15,865,000.

8 Naval Complex Warminster/Willow Grove, Penn-
9 sylvania, two hundred units, \$14,910,000.

10 Naval Air Station, Chase Field, Texas, eighty-
11 eight units, \$6,360,000.

12 Incirlik Air Base, Turkey, four hundred units,
13 \$29,000,000.

14 Greenham-Common, United Kingdom, two hun-
15 dred and seventy units, \$27,200,000.

16 Classified Location Overseas, six units, \$765,000.

17 (d) The amounts specified in this section may, at the
18 discretion of the Secretary of Defense, or the Secretary's
19 designee, be increased by 10 per centum, if he determines
20 that such increases (1) is required for the sole purpose of
21 meeting unusual variations in cost, and (2) could not have
22 been reasonably anticipated at the time such estimate was
23 submitted to the Congress. The amounts authorized include
24 the costs of shades, screens, ranges, refrigerators, and all
25 other installed equipment and fixtures, the cost of the family

1 housing unit, supervision, inspection, overhead, land acquisi-
2 tion, site preparation, installation of utilities, and solar
3 energy systems.

4 IMPROVEMENT OF EXISTING QUARTERS

5 SEC. 602. (a) The Secretary of Defense, or the Secre-
6 tary's designee, is authorized to accomplish alterations, addi-
7 tions, expansions, or extensions, not otherwise authorized by
8 law, to existing public quarters at a cost not to exceed
9 \$109,819,000 of which \$44,878,000 shall be available only
10 for energy conservation projects.

11 (b) The Secretary of Defense, or the Secretary's desig-
12 nee, within the amount specified in subsection (a), is author-
13 ized to accomplish repairs and improvements to existing
14 family housing in amounts in excess of the dollar limitation
15 prescribed in section 610(a) of the Military Construction Au-
16 thorization Act, 1968, Public Law 90-110, title VI, section
17 610(a), 81 Stat. 305 (42 U.S.C. section 1594h-2), as
18 follows:

19 Marine Corps Air Ground Combat Center,
20 Twenty-nine Palms, California, one hundred and
21 thirty-five units, \$2,897,300.

22 Navy Public Works Center, Honolulu, Hawaii,
23 one hundred units, \$3,190,000.

24 Chanute Air Force Base, Illinois, two hundred
25 and twenty-two units, \$4,662,000.

1 Fort Knox, Kentucky, one hundred units,
2 \$2,851,000.

3 Nellis Air Force Base, Nevada, two hundred and
4 thirty-six units, \$4,956,000.

5 Kirtland Air Force Base, New Mexico, one hun-
6 dred and fifty-five units, \$3,875,000.

7 Offutt Air Force Base, Texas, eighty units,
8 \$1,599,000.

9 Randolph Air Force Base, Texas, one hundred
10 and sixty-seven units, \$3,839,000.

11 Fort Lewis, Washington, fifty-eight units,
12 \$1,378,000.

13 Mildenhall, United Kingdom, thirty units,
14 \$1,511,600.

15 Upper Heyford, United Kingdom, twelve units,
16 \$648,400.

17 ADVANCE PLANNING AND DESIGN

18 SEC. 603. The Secretary of Defense, or the Secretary's
19 designee, may carry out advance planning and construction
20 design and may obtain architectural and engineering services
21 in connection with any family housing construction, including
22 improvements, authorized or not otherwise authorized by law
23 at a total cost of not to exceed \$9.100,000.

1 LEASING OF FAMILY HOUSING

2 SEC. 604. Section 2675(d) of title 10, United States
3 Code, is amended—

4 (1) by striking out "150" in subsection (1) and in-
5 serting in lieu thereof "200"; and,

6 (2) by striking out "17,000" in subsection (2) and
7 inserting in lieu thereof "22,000".

8 AUTHORIZATION OF APPROPRIATIONS

9 SEC. 605. (a) There is authorized to be appropriated for
10 fiscal year 1982 for use by the Secretary of Defense, or the
11 Secretary's designee, for military family housing as author-
12 ized by law for the following purposes:

13 (1) For construction or acquisition of family hous-
14 ing, including minor construction, improvements to
15 public quarters, relocation of family housing, and plan-
16 ning, an amount not to exceed \$287,704,000.

17 (2) For support of military family housing, includ-
18 ing operating expenses, leasing, maintenance of real
19 property, payments of principal and interest on mort-
20 gage debts incurred, payment to the Commodity Credit
21 Corporation, and mortgage insurance premiums author-
22 ized under section 222 of the National Housing Act,
23 Act of June 27, 1934, c. 847, title II, section 222, as
24 amended (12 U.S.C. 1715m), an amount not to exceed
25 \$2,079,184,000, of which not more than \$8,600,000

1 may be obligated or expended for the leasing of mili-
2 tary family housing in the United States, the Common-
3 wealth of Puerto Rico, and Guam, and of which not
4 more than \$113,717,000 may be obligated or expended
5 for the leasing of military family housing in foreign
6 countries.

7 (3) For homeowners assistance under section
8 1013 of the Demonstration Cities and Metropolitan
9 Development Act of 1966, Public Law 89-754, title
10 X, sections 1013(a)-(g), (i), 80 Stat. 1290-1292, as
11 amended (42 U.S.C. 3374), including acquisition of
12 properties, an amount not to exceed \$2,000,000.

13 (b) The amounts authorized to be appropriated in sub-
14 section (a)(2) may be increased to the extent additional funds
15 are necessary for increased pay costs associated with actions
16 taken pursuant to law.

17 TITLE VII—AUTHORIZATION OF APPROPRI-
18 ATIONS AND ADMINISTRATIVE PROVISIONS

19 WAIVER OF RESTRICTIONS

20 SEC. 701. The Secretary of each military department
21 may proceed to establish or develop installations and facilities
22 under this Act without regard to section 3648 of the Revised
23 Statutes, as amended (31 U.S.C. 529), and sections 4774
24 and 9774 of title 10, United States Code. The authority to
25 place permanent or temporary improvements on land includes

1 authority for surveys, administration, overhead, planning,
2 and supervision incident to construction. That authority may
3 be exercised before title to the land is approved under section
4 355 of the Revised Statutes, as amended (40 U.S.C. 255),
5 and even though the land is held temporarily. The authority
6 to acquire real estate or lands includes authority to make
7 surveys and to acquire land and interests in land (including
8 temporary use), by gift, purchase, exchange of Government-
9 owned land, or otherwise.

10 AUTHORIZATION OF APPROPRIATIONS

11 SEC. 702. There are authorized to be appropriated for
12 fiscal years beginning after September 30, 1981, such sums
13 as may be necessary for the purposes of this Act, but appro-
14 priations for public works projects authorized by titles I, II,
15 III, IV, and V, shall not exceed—

16 (1) for title I: inside the United States
17 \$347,866,000; outside the United States
18 \$467,600,000; minor construction \$34,150,000 for a
19 total of \$849,616,000.

20 (2) for title II: inside the United States
21 \$878,568,000; outside the United States
22 \$262,445,000; minor construction \$34,270,000; for a
23 total of \$1,175,283,000.

24 (3) for title III: inside the United States
25 \$1,052,731,000; outside the United States

1 \$599,544,000; minor construction \$28,680,000; for a
2 total of \$1,680,955,000.

3 (4) for title IV: a total of \$326,100,000, including
4 \$6,210,000 for minor construction.

5 (5) for title V: a total of \$425,000,000.

6 COST VARIATIONS

7 SEC. 703. (a) OVERALL TITLE TOTAL LIMITATION.—

8 Notwithstanding the provisions of subsections (b), (c), (e), and
9 (h), the total cost of all construction and acquisition in each of
10 titles I, II, III, IV, and V, except as provided in paragraph
11 (d) below, may not exceed the total amount authorized to be
12 appropriated in that title.

13 (b) VARIATIONS IN INSTALLATION TOTALS—UNUSU-
14 AL VARIATIONS IN COST.—Except as provided in subsec-
15 tions (c) and (e) any of the amounts specified in titles I, II,
16 III, and IV of this Act (other than in sections 103, 203, 303,
17 and 403) may, at the discretion of the Secretary of the mili-
18 tary department or Director of the defense agency concerned,
19 be increased by 5 per centum when inside the United States
20 (other than Alaska or Hawaii), and by 10 per centum when
21 outside the United States or in Alaska or Hawaii, if the Sec-
22 retary of the military department or Director of the defense
23 agency concerned determines that such increase (1) is re-
24 quired for the sole purpose of meeting unusual variations in

1 cost, and (2) could not have been reasonably anticipated at
2 the time such estimate was submitted to the Congress.

3 (c) VARIATIONS IN INSTALLATION TOTALS—ONLY
4 ONE PROJECT AT AN INSTALLATION.—When the amount
5 named for any construction or acquisition in title I, II, III, or
6 IV of the Act involves only one project at any military instal-
7 lation and the Secretary of the military department or Direc-
8 tor of the defense agency concerned determines that the
9 amount authorized must be increased by more than the appli-
10 cable percentage prescribed in subsection (b), the Secretary
11 of the military department or director of the defense agency
12 concerned may proceed with such construction or acquisition
13 if the amount of the increase does not exceed by more than
14 25 per centum the amount named for such project by the
15 Congress.

16 (d) VARIATIONS IN NORTH ATLANTIC TREATY ORGA-
17 NIZATION TOTALS.—When the Secretary of Defense deter-
18 mines that the amount set forth in title V for the United
19 States share of the cost of the North Atlantic Treaty Organi-
20 zation Program must be increased, the Secretary may incur
21 obligations in excess of such amount if the amount of the
22 increase does not exceed by more than 25 per centum the
23 amount set forth in title V.

24 (e) VARIATIONS IN INSTALLATION TOTALS—RE-
25 PORTS BY THE SECRETARY OF DEFENSE.—When the Sec-

1 retary of Defense determines that any amount named in title
2 I, II, III, IV, or V of this Act must be exceeded by more
3 than the percentages permitted in subsections (b), (c), and (d)
4 to accomplish authorized construction, acquisition, or for the
5 United States share of the cost of the North Atlantic Treaty
6 Organization Infrastructure Program, the Secretary of De-
7 fense, Secretary of the military department, or Director of
8 the defense agency concerned may proceed with such con-
9 struction or acquisition after a written report of the facts re-
10 lating to the increase of such amount, including a statement
11 of the reasons for such increase, has been submitted to the
12 Committees on Armed Services of the Senate and House of
13 Representatives, and either (1) thirty days have elapsed from
14 the date of submission of such report, or (2) both committees
15 have indicated approval of such construction or acquisition.
16 Notwithstanding the provisions in prior Military Construction
17 Authorization Acts, the provisions of this subsection shall
18 apply to such prior Acts.

19 (f) COST AND SCOPE VARIATIONS OF INDIVIDUAL
20 PROJECTS: REPORTS TO CONGRESS.—No individual project
21 authorized under title I, II, III, or IV of this Act for any
22 specifically listed military installations for which the current
23 working estimate is greater than the statutory upper limit for
24 minor construction projects, may be placed under contract
25 if—

1 (1) the approved scope of the project is reduced in
2 excess of 25 per centum; or

3 (2) the current working estimate, based upon bids
4 received, for the construction of such project exceeds
5 by more than 25 per centum the amount authorized for
6 such project by the Congress;
7 until a written report of the facts relating to the reduced
8 scope or increased cost of such project, including a statement
9 of the reasons for reduction in scope or increase in cost, has
10 been submitted to the Committees on Armed Services of the
11 Senate and House of Representatives, and either thirty days
12 have elapsed from the date of submission of such report, of
13 both committees have indicated approval of such reduction in
14 scope or increase in cost, as the case may be.

15 (g) ANNUAL REPORTS TO CONGRESS.—The Secretary
16 of Defense, or the Secretary's designee, shall submit an
17 annual report to the Congress identifying each individual
18 project (other than a project authorized under section 103,
19 203, 303, or 403) which has been placed under contract in
20 the preceding twelve-month period and with respect to which
21 the then current working estimate of the Department of De-
22 fense, based upon bids received, for such project exceeded the
23 amount authorized by the Congress for that project by more
24 than 25 per centum. The Secretary shall also include in such
25 report each individual project with respect to which the scope

1 was reduced by more than 25 per centum in order to permit
2 contract award within the available authorization for such
3 project. Such report shall include all pertinent cost informa-
4 tion for each individual project, including the amount in dol-
5 lars and percentage by which the current working estimate
6 based on the contract price for the project exceeded the
7 amount authorized for such project by the Congress.

8 (h) COST AND FLOOR AREA VARIATIONS—SOLAR
9 ENERGY.—The Secretary of Defense shall encourage the
10 utilization of solar energy as a source of energy for projects
11 authorized by this Act where utilization of solar energy
12 would be practical and economically feasible. In order to
13 equip any project authorized by this Act with solar heating
14 equipment, solar cooling equipment, or both solar heating and
15 solar cooling equipment, the Secretary of Defense may au-
16 thorize increases in the cost limitations or floor area limita-
17 tions for such project by such amounts as may be necessary
18 for such purpose. Any increase under this section in the cost
19 or floor area of a project authorized by this Act shall be in
20 addition to any other increase in such cost or variation in
21 floor area limitations authorized by this or any other Act.

22 CONSTRUCTION SUPERVISION

23 SEC. 704. Contracts for construction made by the
24 United States for performance within the United States and
25 its possessions under this Act shall be executed under the

1 jurisdiction and supervision of the Corps of Engineers, De-
2 partment of the Army; the Naval Facilities Engineering
3 Command, Department of the Navy; or such other depart-
4 ment or Government agency as the Secretaries of the mili-
5 tary departments recommend and the Secretary of Defense
6 approves to assure the most efficient, expeditious, and cost-
7 effective accomplishment of the construction herein author-
8 ized. The Secretaries of the military departments shall report
9 annually to the President of the Senate and Speaker of the
10 House of Representatives a breakdown of the dollar value of
11 construction contracts completed by each of the several con-
12 struction agencies selected together with the design, con-
13 struction supervision, and overhead fees charged by each of
14 the several agents in the execution of the assigned construc-
15 tion. Further, such contracts (except architect and engineer-
16 ing contracts which, unless specifically authorized by the
17 Congress shall continue to be awarded in accordance with
18 presently established procedures, customs, and practices)
19 shall be awarded, insofar as practicable, on a competitive
20 basis to the lowest responsible bidder, if the national security
21 will not be impaired and the award is consistent with chapter
22 137 of title 10, United States Code. The Secretaries of the
23 military departments shall report annually to the President of
24 the Senate and Speaker of the House of Representatives with
25 respect to all contracts awarded on other than a competitive

1 basis to the lowest responsible bidder. Such reports shall also
 2 show, in the case of the ten architect-engineering firms
 3 which, in terms of total dollars, were awarded the most busi-
 4 ness; the names of such firms; the total number of separate
 5 contracts awarded each firm; and the total amount paid or to
 6 be paid in the case of each such action under all such con-
 7 tracts awarded such firm.

8 REPEAL OF PRIOR YEAR AUTHORIZATIONS: EXCEPTIONS

9 SEC. 705. (a) As of October 1, 1982, or the date of the
 10 enactment of the Military Construction Authorization Act for
 11 fiscal year 1983, whichever is later, all authorizations for
 12 military public works, including family housing, to be accom-
 13 plished by the Secretary of a military department in connec-
 14 tion with the establishment or development of installations
 15 and facilities, and all authorizations for appropriations there-
 16 for, that are contained in titles I, II, III, IV, and V, of the
 17 Military Construction Authorization Act, 1981 (Public Law
 18 96-418; 94 Stat. 1749), and all such authorizations con-
 19 tained in Acts approved before October 10, 1980, and not
 20 superseded or otherwise modified by a later authorization are
 21 repealed except—

22 (1) authorizations for public works and for appro-
 23 priations therefor that are set forth in those Acts in the
 24 titles that contain the general provisions; and

1 (2) authorizations for public works projects as to
2 which appropriated funds have been obligated for con-
3 struction contracts, land acquisition, or payments to
4 the North Atlantic Treaty Organization, in whole or in
5 part, before October 1, 1982, or the date of the enact-
6 ment of the Military Construction Authorization Act
7 for fiscal year 1983, whichever is later, and authoriza-
8 tions for appropriations therefor.

9 (b) Notwithstanding the repeal provisions of subsection
10 (a) of this section and section 605 of the Military Construc-
11 tion Authorization Act, 1981 (Public Law 96-418; 94 Stat.
12 1770), authorizations for the following items authorized in
13 section 101 of the Military Construction Authorization Act,
14 1980 (Public Law 96-125; 93 Stat. 928) shall remain in
15 effect until October 1, 1983, or the date of enactment of the
16 Military Construction Authorization Act for fiscal year 1984,
17 whichever is later:

18 (1) Boiler Plant Emission Control System con-
19 struction in the amount of \$1,900,000 at Anniston
20 Army Depot, Alabama.

21 (2) Boiler Plant Emission Control System con-
22 struction in the amount of \$3,000,000 at Tobyhanna
23 Army Depot, Pennsylvania.

1 (3) Boiler Plant Emission Control System con-
2 struction in the amount of \$2,800,000 at Fort Benja-
3 min Harrison, Indiana.

4 (4) Industrial Waste Treatment Plant construction
5 in the amount of \$1,100,000 at Riverbank Army Am-
6 munition Plant, California.

7 (5) Advanced Power Train Test Facility construc-
8 tion in the amount of \$1,560,000 at Corpus Christi
9 Army Depot, Texas.

10 (6) Ammunition Inspection and Test Facility con-
11 struction in the amount of \$1,200,000 at Letterkenny
12 Army Depot, Pennsylvania.

13 (7) Replace Boilers construction in the amount of
14 \$8,600,000 at Red River Army Depot, Texas.

15 (8) Dental Clinic construction in the amount of
16 \$2,750,000 at Schofield Barracks, Hawaii.

17 (9) Centralized Container Ammunition Facility
18 construction in the amount of \$920,000 at Lone Star
19 Army Ammunition Plant, Texas.

20 (10) Indoor Athletic Facilities Construction in the
21 amount of \$12,200,000 at the United States Military
22 Academy, West Point, New York.

23 (11) Temperature-Altitude Test Facility construc-
24 tion in the amount of \$2,000,000 at the White Sands
25 Missile Range, New Mexico.

1 (12) Water Monitor Station construction in the
2 amount of \$220,000 at Riverbank Army Ammunition
3 Plant, California.

4 (c) Notwithstanding the repeal provisions of subsection
5 (a) of this section and section 605 of the Military Construc-
6 tion Authorization Act, 1981 (Public Law 96-418; 94 Stat.
7 1770), authorization for the construction of the Reception
8 Station at Fort Benning, Georgia, in the amount of
9 \$5,886,000 authorized in section 101 of the Military Con-
10 struction Authorization Act, 1978 (Public Law 95-82; 91
11 Stat. 358), as such authorization was extended in section 605
12 of the Military Construction Authorization Act, 1980 (Public
13 Law 96-125; 93 Stat. 945), shall remain in effect until Octo-
14 ber 1, 1983 or the date of enactment of the Military Con-
15 struction Authorization Act for fiscal year 1984, whichever is
16 later.

17 (d) Notwithstanding the provisions of subsection (a) of
18 this section and of section 605 of the Military Construction
19 Authorization Act, 1981 (Public Law 96-418; 94 Stat.
20 1770) authorizations for the following items authorized in
21 section 201 or such authorizations as were extended in sec-
22 tion 605 of the Military Construction Authorization Act,
23 1980 (Public Law 96-125) shall remain in effect until Octo-
24 ber 1, 1983, or the date of enactment of the Military Con-

1 struction Authorization Act for fiscal year 1984, whichever is
2 later:

3 (1) Municipal Sewer Connection construction in
4 the amount of \$2,200,000 at the Naval Submarine
5 Base, New London, Connecticut.

6 (2) Insulation and Storm Windows construction in
7 the amount of \$2,350,000 at the Naval Weapons Sta-
8 tion, Charleston, South Carolina.

9 (3) Applied Instruction (Morse Training) Building
10 construction in the amount of \$2,400,000 at the Naval
11 Technical Training Center, Pensacola, Florida.

12 (4) Municipal Sewer Connection construction in
13 the amount of \$2,100,000 at the Naval Shipyard,
14 Long Beach, California.

15 (5) Industrial Waste Collection and Treatment
16 construction in the amount of \$6,500,000 at the Naval
17 Shipyard, Long Beach, California.

18 (e) Notwithstanding the repeal provisions of subsection
19 (a) of this section and section 605 of the Military Construc-
20 tion Authorization Act, 1981 (Public Law 96-418, 94 Stat.
21 1770), authorizations for the following items authorized in
22 section 301 of the Military Construction Authorization Act,
23 1980 (Public Law 96-125; 93 Stat. 934) shall remain in
24 effect until October 1, 1983, or the date of the enactment of

1 the Military Construction Authorization Act for fiscal year
2 1984, whichever is later:

3 (1) Connect to Regional Sewage System in the
4 amount of \$1,100,000 at Richards-Gebaur Air Force
5 Base, Missouri.

6 (2) Pave roads in the amount of \$690,000 at
7 Davis-Monthan Air Force Base, Arizona.

8 (3) Aircraft Maintenance Control Facility in the
9 amount of \$850,000 at England Air Force Base,
10 Louisiana.

11 (4) Composite Medical Facility in the amount of
12 \$16,500,000 at George Air Force Base, California.

13 (5) Air Installation Compatible Use Zone in the
14 amount of \$1,950,000 at Buckley Air National Guard
15 Base, Colorado.

16 (6) Various Operational Facilities in the amount
17 of \$4,950,000 at Roberts International Airport,
18 Liberia.

19 (7) Unaccompanied Officer Personnel Housing in
20 the amount of \$510,000 at Taegu Air Force Base,
21 Korea.

22 (8) Security Facilities in the amount of
23 \$3,485,000 at Howard Air Base, Canal Zone.

24 (9) Special Operations Facilities in the amount of
25 \$2,800,000 at Various Locations Overseas.

UNIT COST LIMITATIONS

SEC. 706. None of the authority contained in titles I, II, III, and IV of this Act shall be deemed to authorize any building construction projects inside the United States in excess of a unit cost to be determined in proportion to the appropriate area construction cost index, based on the following unit cost limitations where the area construction index is 1.0:

- (1) \$53 per square foot for permanent barracks; or
- (2) \$57 per square foot for unaccompanied officer quarters;

unless the Secretary of Defense, or the Secretary's designee, determines that, because of special circumstances, application to such project of the limitation on unit cost contained in this section is impracticable. Notwithstanding the limitations contained in prior Military Construction Authorization Acts on unit costs, the limitations on such costs contained in this section shall apply to all prior authorizations for such construction not heretofore repealed and for which construction contracts have not been awarded by the date of enactment of this Act.

EFFECTIVE DATE FOR PROJECT AUTHORIZATIONS

SEC. 707. Titles I, II, III, IV, V, and VI shall take effect on October 1, 1981.

1 TITLE VIII—GUARD AND RESERVE FORCES
2 FACILITIES

3 AUTHORIZATION FOR FACILITIES

4 SEC. 801. Subject to chapter 133 of title 10, United
5 States Code, the Secretary of Defense may establish or de-
6 velop additional facilities for the Guard and Reserve Forces,
7 including the acquisition of land therefor, but the cost of such
8 facilities shall not exceed the following amounts:

9 (1) For the Department of the Army—

10 (a) for the Army National Guard of the
11 United States, \$41,500,000; and

12 (b) for the Army Reserve, \$30,400,000.

13 (2) For the Department of the Navy: for the
14 Naval and Marine Corps Reserves, \$23,900,000.

15 (3) For the Department of the Air Force—

16 (a) for the Air National Guard of the United
17 States, \$78,700,000; and

18 (b) for the Air Force Reserve, \$28,500,000.

19 WAIVER OF CERTAIN RESTRICTIONS

20 SEC. 802. The Secretary of Defense may establish or
21 develop installations and facilities under this title without
22 regard to section 3648 of the Revised Statutes, as amended
23 (31 U.S.C. 529) and sections 4774 and 9774 of title 10,
24 United States Code. The authority to place permanent or
25 temporary improvements on lands includes authority for sur-

veys, administration, overhead, planning, and supervision incident to construction. That authority may be exercised before title to the land is approved under section 355 of the Revised Statutes, as amended (40 U.S.C. 255) and even though the land is held temporarily. The authority to acquire real estate or and includes authority to make surveys and to acquire land and interests in land (including temporary use), by gift, purchase, exchange of Government-owned land, or otherwise.

EXPANSION OF FEDERAL FACILITIES BY THE NATIONAL
GUARD

SEC. 805 Section 2233 of title 10, United States Code is amended:

(1) by inserting "or those owned by the Federal Government" after the words "or convert facilities owned by it" in clause (2) of subsection (a); and

(2) by striking out the period at the end of subsection (b) and inserting in lieu thereof: ", and such property may be transferred to any State or Territory, Puerto Rico, or the District of Columbia incident to the expansion, rehabilitation or conversion of such property under subsection (a)(2), so long as the transfer of such property does not result in the creation of a State or Territory, Puerto Rico, or the District of

1 Columbia owned enclave within a larger Federal
2 installation."

3 FEDERAL FUNDING OF DIRECTED PROGRAMS

4 SEC. 804. Section 2233(a) of chapter 133, title 10,
5 United States Code is amended:

6 (1) by striking out "and" after clause (4);

7 (2) by striking out the period at the end of clause
8 (5) and inserting in lieu thereof; "and"; and

9 (3) by adding at the end thereof the following new
10 clause:

11 "(6) contribute to any State or Territory, Puerto
12 Rico, or the District of Columbia such amounts as may
13 be necessary for the alteration, rehabilitation, or con-
14 struction of arms storage rooms, which alteration, re-
15 habilitation, or construction is required to meet a
16 change in Department of Defense standards related to
17 the safekeeping of arms."

18 TITLE IX—GENERAL PROVISIONS

19 USE OF SOLAR ENERGY SYSTEMS IN NEW CONSTRUCTION

20 SEC. 901. Section 2688(b) of title 10, United States
21 Code, is amended to read as follows:

22 "(b) For the purposes of this section, a solar energy
23 system shall be considered to be cost effective if the original
24 investment cost differential can be recovered over the ex-
25 pected life of the facility using accepted life cycle costing

1 procedures. Such accepted life cycle costing procedures shall
 2 include the use of the sum of all capital, operating, and main-
 3 tenance expenses associated with the energy system of the
 4 building involved over the expected life of such system or
 5 during a period of twenty-five years, whichever is shorter,
 6 and using marginal fuel cost as determined by the Secretary
 7 of Defense and at a discount rate of 7 per centum per year."

8 FOREIGN GOVERNMENT FUNDED CONSTRUCTION

9 SEC. 902. (a) The Act of September 28, 1951, c. 434,
 10 title V, section 504, 65 Stat. 364, as amended, (31 U.S.C.
 11 723) is amended to read as follows:

12 "There are authorized to be appropriated without fiscal
 13 year limitation, funds for advance planning, construction
 14 design, and architectural services in connection with (1)
 15 public works projects which are not otherwise authorized by
 16 law, and (2) construction management of those projects
 17 funded by foreign governments directly or through interna-
 18 tional organizations for which United States forces are the
 19 sole or primary user."

20 CONSTRUCTION AUTHORITY UNDER A DECLARATION OF

21 WAR OR NATIONAL EMERGENCY

22 SEC. 903. Chapter 159 of title 10 United States Code is
 23 amended:

24 (1) by adding at the end thereof the following new
 25 section:

1 "§ 2689. Construction authority in the event of a declara-
2 tion of war or national emergency

3 "(a) In the event of a declaration of war by the Con-
4 gress or the declaration by the President of a national emer-
5 gency in accordance with the National Emergencies Act
6 (Public Law 94-412; 90 Stat. 1255) requiring employment of
7 the armed forces, the Secretary of Defense is authorized,
8 without regard to any other provisions of law, to undertake
9 military construction necessary to support such employment
10 within the total amount of funds that have been appropriated
11 for military construction, including funds appropriated for
12 family housing, that have not been obligated.

13 "(b) This authority includes: (1) acquisition of real estate
14 and interests in land (including temporary interests by lease,
15 purchase, gift, exchange of government-owned land, or other-
16 wise; (2) surveys and site preparation; (3) acquisition, lease
17 conversion, rehabilitation of permanent or temporary facili-
18 ties; (4) appurtenances, supporting facilities, and utilities inci-
19 dent to such construction; (5) acquisition of and installation of
20 equipment integral to the construction; and (6) planning, su-
21 pervision, administration, and overhead incident to such
22 construction.

23 "(c) This authority shall remain available for the dura-
24 tion of the declaration of war or national emergency.

25 "(d) Whenever a decision to undertake military con-
26 struction authorized under this section is made, the Secretary

1 of Defense shall notify the Committees on Armed Services
2 and Appropriations of the Senate and the House of Repre-
3 sentatives of the decision and the estimated cost of such con-
4 struction including real estate actions pertaining thereto.”.

5 TITLE X

6 SEC. 1001. There are authorized to be appropriated for
7 fiscal year 1983 such sums as may be necessary for the Sec-
8 retary of Defense and the Secretaries of the Army, Navy,
9 and Air Force to establish or develop military installations
10 and facilities by acquiring, constructing, converting, rehabili-
11 tating, or installing permanent or temporary public works,
12 including land acquisition, site preparation, appurtenances,
13 utilities, and equipment.

Senator THURMOND. Our principal witness this morning is Mr. Perry Fliakas, the Deputy Assistant Secretary of Defense for Installations and Housing. Mr. Fliakas has been before this subcommittee many times in the past and we welcome you back.

The request for new military construction authority for fiscal year 1982 is up substantially over previous years. The fiscal year 1982 request is for just over \$7 billion compared to \$5.5 billion enacted for fiscal year 1981—an increase of \$1.5 billion or 27 percent. There are significant new starts in this fiscal year 1982 request; the first increment of MX construction funding is included, the first funds to provide facilities for the ground launched cruise missile in Europe are included, and a new start on an east coast Trident submarine base is requested. We will get into all of these issues.

Before we begin, let me establish a few ground rules. We will begin our military construction hearings in open session and if we need to get into classified material, we will recess briefly and go into executive session. I will look to the witness to advise the Chair when we get into classified areas.

As usual, there will be some questions to be answered for the record. I have asked that questions for the record be minimized to those necessary to establish a credible record. We will accept questions to be answered for the record no later than 5 p.m. on the day of the hearing. Now in return for minimizing these questions for the record, I would like to get your commitment, Mr. Fliakas, that you will give them extraordinary attention and get them back to us within 1 week. Can I get that commitment from you?

Mr. FLIAKAS. Yes, sir, Mr. Chairman, we certainly will.

Senator THURMOND. Mr. Fliakas, again we welcome you to the hearing. If you would introduce your supporting witnesses first, you may then proceed as you desire.

I would like to call first on Senator Warner if he has an opening statement.

Senator WARNER. I do not and I will have to absent myself to chair an Energy Committee hearing shortly, but I will be glad to work with the Chairman on this bill.

Senator THURMOND. Thank you, Senator. Mr. Fliakas, you may introduce your people.

STATEMENT OF PERRY J. FLIAKAS, DEPUTY ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND HOUSING), ACCOMPANIED BY ROBERT H. PELLETREAU, JR., DEPUTY ASSISTANT SECRETARY OF DEFENSE (NEAR EASTERN, AFRICAN AND SOUTH ASIAN AFFAIRS), OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (INTERNATIONAL SECURITY AFFAIRS); COL. LEON K. PFELFFER, DIRECTOR, NATO DEFENSE POLICY, EUROPEAN AND NATO AFFAIRS, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE (INTERNATIONAL SECURITY POLICY); LT. GEN. RICHARD H. GROVES, USA, DEPUTY ADVISER ON NATO AFFAIRS; BRIG. GEN. NORMAN G. DELBRIDGE, JR., ASSISTANT CHIEF OF ENGINEERS, OFFICE OF THE CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY; COMDR. J. B. LEAF, USN, DIRECTOR, PROGRAM DEVELOPMENT DIVISION, NAVAL FACILITIES ENGINEERING COMMAND; AND COMDR. WILLIAM HARPER, OFFICE OF DEPUTY ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND HOUSING)

Mr. FLIAKAS. Thank you, Mr. Chairman.

With me today is Mr. Bob Pelletreau, Assistant Secretary of Defense on my left, for the Near Eastern, African, and South Asian Affairs, from the Office of the Assistant Secretary of Defense (International Security Affairs). On my right is Lt. Gen. Richard Groves, who is the deputy adviser on NATO Affairs. We also have representatives of the JCS and other witnesses from the International Security Affairs Office as well as representatives of my own staff and we will be prepared to answer your questions.

Mr. Chairman, in addition to my rather comprehensive overview statement that I would like to brief and enter in its entirety for the record, I also have comprehensive statements on the defense agencies, on the family housing program, on the Guard and Reserve components program and a statement by Mr. Bandjunis, on our general provisions. I will enter all of these statements for the record with your permission, Mr. Chairman.

Senator THURMOND. Without objection, it is so ordered.

[The prepared statements of Mr. Fliakas follow:]

PREPARED STATEMENT OF PERRY J FLIAKAS, DEPUTY ASSISTANT SECRETARY OF
DEFENSE (INSTALLATIONS AND HOUSING)

April 7, 1981

Mr. Chairman and Members of the Committee:

I am pleased to have the opportunity to appear before your Committee today to present the Department of Defense Fiscal Year 1982 Military Construction Program and to discuss some of its goals and other construction-related matters affecting the facility resources needs of the Department of Defense. This program now reflects the amendment submitted on March 10, 1981. There are three major changes to the budget of the previous Administration. The first of these is a reflection of a lower escalation rate than previously anticipated. The second assumes an anticipated savings to be achieved through revisions to current administrative practices under the Davis-Bacon and Services Control Acts. The third is an increase in the number of military construction projects and a corresponding increase in the total budget request.

The request for FY 1982, \$6.1 billion for appropriations and \$7.0 billion in authorization, represents a carefully balanced approach to the acquisition of new facilities required by changes in weapons, advancing technologies,

National Security policy, or other factors, and our continuing effort to upgrade or replace much of the substantial inventory of aging and obsolescent facilities.

As with past-year programs, it has evolved through a series of careful, detailed reviews of each project proposed by the Military Services. In those reviews, the primary concern has been to assure that the project is not only essential to meet a valid and urgent military need, but also represents the most cost-effective feasible method for achieving the objectives. Careful attention has been given to the development of a balanced level of facilities support for important new programs and initiatives such as M-X, TRIDENT, the Indian Ocean/Persian Gulf access and deployment of other weapon systems, while continuing to meet essential needs of NATO and to maintain readiness in Europe, Korea, Japan and other overseas areas. We have also not neglected needed improvements for the quality of life for military personnel and their families, and Defense commitments to high national priority requirements such as energy conservation and pollution abatement. The result is a carefully balanced DoD FY 1982 Construction Program that will enhance the military posture and readiness of the Active Forces and their Guard and Reserve Components.

For FY 1982 the Department of Defense Military Construction and Family Housing Program request totals \$7,028,842,000 for authorization and \$8,147,088,000 for appropriations. The main differences between these amounts, about \$1.1 billion, are attributed to planning and design and defense access roads which will be funded under permanent codified authorizing legislation, funding of projects authorized in prior years, funding for debt principal retirement, prior year construction funding shortfalls, and projects previously requested for full authorization but with phased funding. A full reconciliation of these differences is provided in the Appendix to this statement.

The last several years have been marked by a number of rapidly changing events that have impacted dramatically on the military construction program. Coupled with other dynamic factors influencing our programs, the Department of Defense found it necessary to submit periodic amendments and/or supplementals to current program budget requests. Some of these are facility requirements associated with the Panama Canal Treaty, the build-up in the Indian Ocean, access agreements with countries in the littoral Persian Gulf and Indian Ocean, force structure and weapon system deployments, fact-of-life adjustments necessitated by increased fuel costs, and unanticipated inflation. Accordingly, in addition to the normal submission of these years budget requests, we have had a FY 1980 Supplemental, a FY 1981 Amendment and Supplemental and a revised program submission by the new Administration. The Congress acted on some of these requests and chose on others to roll them in with consideration of the following year's program. I will try to summarize:

For FY 1981, as amended, the Department of Defense requested appropriations in the amount of \$5,531,900,000 and \$112,110,000 as a supplement to the FY 1980 program. Supplemental appropriations, mainly for planning and design, were approved in the amount of \$43,500,000. Actual appropriations enacted for FY 1981 totaled \$5,226,700,000. Thus, the FY 1982 appropriations request reflects an increase of some \$2.6 billion above the FY 1981 amounts requested and \$2.9 billion more than the amounts enacted.

With respect to the authorization requests for FY 1981, as amended, the Department of Defense requested \$5,515,200,000 and \$23,500,000 as a supplement to the FY 1980 program. The authorizing committees chose not to act separately on the supplemental request to accelerate construction on Diego Garcia and directed that Navy use its emergency construction authority for this purpose. Actual enactment totaled \$5,530,004,000. Thus, the FY 1982 authorization

request reflects an increase of some \$1.5 billion above the FY 1961 amounts requested and enacted.

Also, with submission of the FY 1962 program, additional appropriations are being requested for FY 1961 for shortfalls in planning and design, construction, and for family housing in the total amount of \$352,000,000. Of this total, \$151,000,000 is for planning and design. The components are experiencing an acute shortage of planning and design funds. The Department of Defense does advance planning and design and begins design of a construction project prior to the project being included in the annual military construction program. This approach ensures better project definition, more accurate cost estimates, and enables us to execute the project promptly, once the Congress authorizes and funds it. This concept of project development is authorized, in fact insisted upon, by the Congress. However, because of a number of reasons, DoD is currently in an underfunded position in the planning and design account. The shortfall is the result of the trade-off of FY 1961 planning and design funds for Rapid Deployment Force construction; the reduction by the Congress of the FY 1960 supplemental request for planning and design; the late addition of facilities in Egypt in the construction program without commensurate design resources; and shortages caused by Congressional construction project additions to the FY 1961 request. Further, some advanced developmental facilities such as the Space Transportation System (Space Shuttle) and the High Energy Laser have far exceeded estimated costs in the planning and design stage. The balance of the supplemental request, excluding family housing, for the Active Forces and Guard and Reserves total \$167.0 million for construction and \$35.1 million for purchase index reductions. For FY 1961 shortfalls in family housing we are requesting \$129,520,000. This is comprised of \$18,000,000 for construction projects authorized in FY 1961 for which funds were not appropri-

ated, \$17,930,000 to cover the cost of a 9.17% unbudgeted pay increase effective October 1, 1980, \$53,600,000 for operations as a result of congressional reductions, and \$40,000,000 to augment essential maintenance of our sizable inventory. Specifically, the \$53.6 million for operations excludes a \$24 million savings consistent with the President's economic recovery plan which anticipates lower inflation rates from the previous inflation forecast.

While the program this year is one of the largest in recent years, we feel it is more reflective of the needs of the Department of Defense than has been the case in recent years. Due to a series of contributing factors, the DoD physical plant is in an accelerating state of decline and is a matter of great concern. Much of it is of World War II vintage which means that many facilities still in use are obsolete and have far exceeded their planned economic life. A majority of our facilities are over 25 years old. Consequently, the physical plant has reached the stage where its various components are becoming obsolete faster than they are being replaced. This condition, coupled with inconsistent funding support during and since the Southeast Asia conflict has produced large facilities deficiencies in both construction and maintenance. The inability to provide adequate facilities on a timely basis has many serious implications. Fundamentally, adequate operational and maintenance facilities are essential to equipment readiness and mission accomplishment. In a similar way, substandard training and quality of life facilities preclude optimum training, lower morale and severely inhibit reenlistment efforts. Further, worker interest, initiative and productivity are reduced.

Over the past several years, a concerted effort has been made to reduce the DoD facility deficiency to a manageable level. However, anticipated gains have been offset by several factors, namely: continuing construction cost escalation; compliance with national programs such as energy conservation and

pollution abatement; impact of new weapons system acquisition on budgetary resources; funding constraints, and the increasing need to replace or modernize aging, obsolete facilities. We believe that a balanced and representative military construction program is vital to support the force structure worldwide and to protect and replace the physical plant of our armed forces.

The following tabular summaries compare the authorization and appropriation requests for the Active Forces, Guard and Reserve Forces, the Defense Agencies, NATO Infrastructure, and the Family Housing Program, for both Fiscal Years 1981 and 1982.

Department of Defense						
Appropriations-(\$ Millions)						
	FY 1980S	FY 1981A	FY 1980S	FY 1981	FY 1981S	FY 1982A
	Request	Request	Enacted	Enacted	Request	Request
Army	\$ 4.0	\$ 911.1	\$ 1.0	\$ 857.8	\$ 34.4	\$1,089.7
Navy	42.5	763.6	21.5	775.3	27.9	1,477.8
Air Force	24.7	918.8	7.0	861.1	124.1	2,225.4
Defense Agencies	--	235.7	--	245.6	29.9	354.1
NATO Infrastructure	--	300.0	--	250.0	--	385.0
Guard/Reserve Forces	--	206.7	--	227.0	6.5	236.2
Family Housing and Homeowners Assistance	40.9	2,196.0	14.0	2,007.9	129.5**	\$2,368.9
TOTAL	\$ 112.1	5,531.9	\$ 43.5	\$5,224.7	\$ 352.3	\$8,147.1

Authorization-(\$ Millions)						
	FY 1980S	FY 1981A	FY 1980S	FY 1981	FY 1981S	FY 1982A
	Request	Request	Enacted	Enacted	Request	Request
Army	\$ --	\$ 843.3	\$ --	\$ 879.5	\$ 1.8	\$ 849.6
Navy	23.5	966.0	--	989.7	2.0	1,175.3
Air Force	--	737.7	--	716.3	56.1	1,680.9
Defense Agencies	--	293.9	--	287.6	.9	326.1
NATO Infrastructure	--	300.0	--	300.0	--	425.0
Guard/Reserve Force	--	178.3	--	200.0	6.5	203.0
Family Housing and Homeowners Assistance	--	2,196.0	--	2,156.9	16.0	\$2,368.9 *
TOTAL	\$ 23.5	\$5,515.2	\$ --	\$5,530.0	\$ 83.3	\$7,028.8

*Authorization for appropriations.

**Includes \$17.9 million requested in pay supplemental.

As mentioned earlier, the FY 1982 program reflects a carefully structured mix of new requirements and a measured advance toward our goal of modernizing or replacing many of the older structures in the inventory. The division between these major categories is roughly 73 percent devoted to support of current missions and new requirements, and about 27 percent allocated to replacement and modernization. While we would prefer a greater emphasis on the replacement and modernization program in FY 1982, we must consider many other competing priorities within the total matrix of requests.

Inflation in the construction industry continues to be one of our main concerns although it has recently risen less rapidly than the consumer price index. Our ability to predict construction costs two years in advance has been severely hampered by the combined effects of petroleum prices, fluctuations in interest rates, currencies, variable demand and other factors which we cannot control or influence. Fluctuations in the value of the dollar compared to foreign currencies also continue to have a large effect on our overseas program. In pricing the FY 1982 projects, we have assumed that construction costs will rise 7.2 percent during FY 1981 and 6.8 percent for FY 1982. We believe that this will be sufficient to assure that the large majority of Defense projects will be awarded within the requested appropriations.

The current total facility deficiency for the three Military Departments, the Guard and Reserve, and Defense Agencies is projected at \$60.5 billion including \$16.4 billion for the Air Force M-X missile program. The total deficiency of the three active Military Departments alone (exclusive of the M-X program) is \$38.7 billion of which \$17.4 billion represents replacement and modernization projects required to eliminate inadequate and overage facilities. Future progress in overcoming this substantial deficit will continue to depend

primarily on two factors: an abatement in construction cost inflation and future increases in the amount of military construction budgets.

Within the total requested program of some \$8.1 billion, about \$3.1 billion are allocated to construction within the United States, \$1.6 billion to general support activities, and about \$2.0 billion to overseas construction. The overseas total includes \$425 million as our cost share contribution to NATO infrastructure. However, we are asking for only \$385 million in appropriations with the remainder to be made up by recoupments. The balance \$2.4 billion, represents the military family housing resources necessary for construction, operations and maintenance, leasing, and similar activities for support of family housing worldwide.

For the information of the Committee and to provide further amplification of the various parts of our program, there are attached to my statement six enclosures. First is a reconciliation of new authorization to appropriations. Second is a summary of the proposed authorization programs by the major facility categories. Third is a more detailed description of the construction within the various facility categories. Fourth is a summary of the Family Housing authorization for appropriations. In the fifth are our responses to a number of questions and requests for reports contained in the Authorization Committee Reports on the FY 1981 Program. Other responses containing more detail, have already been or will be forwarded to the Committee separately. In the sixth and last enclosure is a more detailed summary of the FY 1981 Supplemental request.

Now I would like to address several important segments of this year's request which in the past have been a matter of interest to the Congress, and which we consider to be essential elements affecting our total program. The first of these is.....

Construction Execution

The Department of Defense emphasizes the execution of the military construction program in the year for which funds are appropriated. It is our judgment that management of the Military Construction Program by the Services has been good during FY 1980. This judgment is based on performance.

We have established an overall Service performance execution rate of 90 percent of the program, excluding projects cancelled or delayed beyond Service control. Performance for the last fiscal year was 1 percent short of our goal, caused in part by the late (November 30, 1979) enactment of the FY 1980 Military Construction bills. Nevertheless, FY 1980 performance of 89 percent compares favorably with the performance execution figures of 90 percent in FY 1979 and 1978, 89 percent in FY 1977 and 77 percent in FY 1976.

In addition to the year-end goal, we have established intermediate goals to encourage award of the program in the early quarters of the fiscal year. This is essential in a period of high inflation because delay in "hitting the street early" means increased costs. And, of course, early awards enable us to furnish required facilities to the user in a more timely and responsive manner.

Another indicator leading to our judgment that management of the military construction by the Services in FY 1980 has been good is our analysis of Service efforts to control cost growth. Of those projects executed, there were only 51 projects which exceeded the program authorization by more than 25 percent, and thereby required cost variation approval by the Congress. This compares with 46 such projects in FY 1979. Our analysis of the above mentioned 51 projects shows that unanticipated inflation was the primary factor for cost growth in these projects.

By way of background, may I remind you that we foresaw the extraordinary cost growth in military construction and you were so advised. On that account

the Congress directed the use of cost variation procedures to assure award.

Competition on Military Construction has improved slightly in 1980. We now experience an average of 6.1 bidders for each bid package, whereas in 1979 that figure was 5.7.

The FY 1982 Military Construction budget reflects an anticipated savings of \$70 million to be achieved through revisions to current administrative practices under the Davis-Bacon and Services Control Acts.

Program shortfall deserves special comment. Prior to 1979, the overall ratio of program current working estimate to program authorization was in the mid-80% range. This allowed program flexibility to pay contractor claims and to absorb cost growth. For the last two years, this ratio has been close to 100 percent, thus eliminating flexibility. Foreign currency exchange losses, unanticipated inflation rates and other factors have all contributed to a serious funding shortfall of \$387.2 million which could result in cancellation or deferral of a number of valuable approved projects and impair our ability to carry out future Military Construction programs. The \$387.2 million total shortfall consists of Army, \$38.9 million; Navy, \$105.8 million; and Air Force \$242.5 million. The single greatest factor in this shortfall was the cost growth in the Space Transportation System project. The STS program amount was \$118 million, and the current working estimate is \$201 million. The FY 1982 budget includes \$387.2 million to fund the military construction shortfall and I urgently commend your attention and support to the correction of this long-standing problem.

Planning and Design

This year the DoD requests \$483.7 million under the continuing authorization of 31 USC 723 for advance planning and design funds for the active forces

and defense agencies and \$16.9 million for the Guard and Reserve components under 10 USC 2233. This is significantly larger than the \$336.6 million requested last year. However \$156 million of the total is for planning and design of the Air Force's M-X program. The remaining \$344.6 million is just sufficient to cover inflation and anticipated significantly larger future years' construction programs of over \$8 billion per year. I might mention that we have critically examined the planning and design program to assure that these large amounts can be handled efficiently and have met with the Military Departments to plan necessary management actions.

The Military Departments are continuing to make progress toward the DoD goal of having all projects at least at the 35 percent stage of design when presented to the Committees for authorization and appropriation. We realize that we must strive to attain this objective in order to be able to obligate the construction programs in the budget year and I can assure you that we intend to come very close, if not completely attain our goal.

Construction in Europe

Construction in Europe continues to command a major portion of our total construction request. I will cover this in more detail in my separate statement on construction in Europe and NATO Infrastructure, but I would like to say here that the Department of Defense continues to make significant progress in addressing the concerns of the Congress in this very important area, with particular emphasis on management initiatives and innovations. For FY 1982, some \$1.125 billion in authorization and \$1.094 billion in appropriation are required to support the operational objectives of the U.S. and major NATO commanders. Included is \$425 million in authorization and \$385 million in appropriation for the U.S. contribution to the NATO Infrastructure program. The

difference, \$40 million, will be provided through recoupment of funds from previously prefinanced projects. This represents a substantial increase over the \$300 million authorized and \$250 million appropriated in FY 1981 and reflects the proportionate share it is estimated that the U.S. will incur in FY 1982 against the approximately \$2.6 billion Infrastructure program backlog. A significant factor which was considered in developing this year's request is the improved rate at which the host nations are approving large Infrastructure projects. This accelerated rate has caused a concomitant increase in requirements for the U.S. to pay its share of such projects. As you know, the U.S. contribution to this common funded program is 27.42 percent.

In addition to the Infrastructure line item, the total request includes U.S. unilaterally funded military construction projects in Europe in the amount of \$363 million in authorization and \$373 million in appropriation for the Army, and authorization and appropriation requests of \$35 million for Navy, \$258 million for the Air Force, and \$44 million for the Defense Agencies. There is one prefinanced project in this request. The Air Force is requesting \$24 million for mission essential facilities at collocated operating bases. These projects are eligible for NATO funding, but with the small amount of funds remaining in this slice group, construction of these important projects could not be expected until sometime beyond 1985. As I have indicated in prior years testimony, we will limit the practice of prefinancing to very selected projects and only when absolutely required to meet operational commitments. The military construction requests for the Services and Defense Agencies include such items as personnel and logistic support facilities for the PATRIOT and Ground-Launched Cruise Missile systems, Dependents Schools, training facilities and other projects that are not eligible for NATO funding.

Indian Ocean/Persian Gulf Construction

As noted last year, our national interests are inextricably tied to the Indian Ocean/Persian Gulf region of the world. Because of Congressional and DoD concern, comprehensive reviews of the strategic and tactical concepts required in this volatile area have been conducted by the Joint Chiefs of Staff. The reviews defined our overall planning and policy objectives which have now been incorporated into a multi-year construction plan. As required, a copy of this plan has been forwarded to your committee. The plan requires extensive construction of facilities in various countries throughout the region in order to support the rapid deployment force concept and to improve the operational readiness of our forces in the area. In FY 1981, \$236.9 million was provided including a special contingency fund of \$105 million for Indian Ocean/Persian Gulf construction which has been applied to projects in Oman, Kenya, and Somalia. The \$472.6 million requested in this budget provides for additional construction in these countries but also includes needs in Diego Garcia and Egypt. Appreciating the almost complete lack of supporting facilities in the region and the necessity to provide on-line facilities as quickly as possible, the Department developed a construction policy which provides for preference to United States firms in order to ensure a dependable, technically proficient and responsive regional construction capability. The required dredging program for the area will be accomplished in accordance with Public Law 96-436 which provides United States contractors with a beneficial 20 percent bid factor. The United States Army Corps of Engineers and the Naval Facilities Engineering Command, as the DoD construction agents in the area, have been instructed to take all necessary actions to execute and carry out this military construction program in an expeditious manner. We have a high degree of confidence that the construction program for the Indian Ocean/Persian Gulf has been carefully

planned and programmed to provide needed facilities and will be constructed in a manner responsive to the support needs of our operational forces and to our national interests.

Construction in the Pacific

In recent years, construction in the Pacific has been assigned a somewhat lower priority in deference to the need to address urgent facilities requirements in Europe and the Indian Ocean/Persian Gulf areas. However, while those areas continue to receive major consideration, the FY 1982 construction requirements in the Pacific total approximately \$425.1 million and therefore represent a significant element of the total program.

As might be expected, the greatest emphasis has centered in Korea for which \$149.4 million has been requested. Of this amount \$62.3 million has been programmed by the Army to continue efforts begun last year to undertake extensive construction in light of the announced reassessment of the Second Division withdrawal. Similarly, the remaining \$51.3 million has been programmed by the Air Force in an effort to enhance its operational capabilities in that area. The Defense Logistics Agency has programmed \$29.0 million to construct POL tankage, and two dependent school projects for \$6.8 million are programmed in Korea. This effort is also reflected in Air Force requests for facilities in Japan where \$18.7 million has been programmed in addition to some Army and Navy requirements. Two dependent schools are also included in Japan for \$9.5 million.

Construction is also being requested in the Republic of the Philippines. Last year we were able to proceed with some essential Air Force new construction following the completion of negotiations for a base rights agreement involving Clark Air Base. In the FY 1982 request, we are continuing this effort

with Navy and Air Force facilities at Subic Bay, Cubi Point and at Clark Air Base totalling some \$29.1 million.

The balance of the requirements in the Pacific are located in Hawaii, \$92.0 million; Alaska, \$70.9 million; the Marianas, \$32.2 million; Wake Island, \$14.5 million; Kwajalein, \$3.2 million; and New Zealand, \$1.2 million. In this instance, we have included Alaska because of its vital role in Pacific operations. Highlighted are the minimally-attended radar facilities in Alaska, and the acquisition of the leasehold interest in 18,200 acres of land originally agreed to in 1975 as part of the covenant to establish the Commonwealth of the Northern Marianas Islands. Other projects are operational, training, environmental, and quality of life facilities for our forces in these areas.

Quality of Life

Quality of life embraces a range of programs and individual projects designed to create an environment which recognizes that our Armed Forces personnel are our most important asset. The human dimension of military service -- the job, living, and recreational conditions of service life -- is generally regarded as a highly pertinent variable in the recruitment, retention, discipline, morale and readiness of military members.

Satisfactory and servicable facilities are, of course, a prerequisite to adequate working conditions, housing, medical care, educational, religious, recreational and other programs necessary to support the military community. Quality of life programs -- to include military construction -- have not always competed well for resources. The Department of Defense Fiscal Year 1982 military construction program addresses some of the shortfalls of prior years by recognizing that improved morale and retention of skilled personnel in the Armed Forces depends upon relatively more attention to quality of life issues.

Community Facilities

The Fiscal Year 1982 Military Construction Authorization Program contains \$185.8 million for 64 community facility projects. The current All Volunteer Force includes 54.4 percent which are married personnel. There are over 1.6 million dependent children of these military families. Frequent reassignments, unaccompanied tours, long periods of sea duty, irregular working hours and training exercises, deteriorating purchasing power, and a significant number of working spouses have all combined to necessitate more and better family services, child care, and youth activity programs. The FY 1982 military construction program includes among other items ten family service or community centers and eight child care centers to address these needs. The FY 1982 military construction appropriation program includes \$9.8 million for four projects which were previously authorized.

Gymnasiums and other sports and physical fitness facilities are required not only for recreational purposes, but are an integral part of the DoD physical fitness readiness program. Fifteen of these facilities have been included in the FY 1982-military construction program.

For too long we have neglected our overseas facilities and those Navy shore installations in the United States directly supporting our fleet personnel and their families. While it is extremely difficult to establish priorities on a worldwide basis, we have tried to establish a balance between military construction projects in the United States and those in foreign countries. We expect that military construction programs in future years will likewise be oriented toward meeting overseas needs as well as selected Navy shore installations and small remote sites within the United States, where quality of life deficiencies are known to currently exist.

The Department of Education Organization Act, Public Law 96-88, included provision for the transfer of the Department of Defense Office of Dependents Schools to the Education Department prior to May 1983.

A plan was developed which contemplated effecting this transfer by the beginning of Fiscal Year 1982. However, during the review of the Budget, then-President Carter made the decision to delay the proposed transfer in order to give the new Administration the opportunity to review the proposal. Accordingly, the military construction and design for continued operation under the Department of Defense are included in this request for \$64.2 million. This will provide eleven projects to expand or rebuild schools for overseas dependents.

In summary, the FY 1982 community facility construction in the Continental United States contains 29 projects at \$58,750,000; and 35 projects in eight foreign countries for \$127,070,000.

Family Housing

The roughly \$2.4 billion family housing program proposed for FY 1982 is an essential aspect of the quality of life experienced by our military personnel. Failure of this program adversely affects retention of the key personnel we need to accomplish essential missions. The FY 1982 program includes the construction or acquisition of 2,117 new units at a cost of \$168.8 million, in support of new missions or families assigned to installations in tight housing markets. 676 of the units are in overseas areas where economic analyses indicate it is more cost effective to build or acquire vice lease. Although our operating and maintenance costs have increased, the expenses anticipated are necessary if we are to maintain desirable surroundings important for the support of our personnel. I will discuss the program in more depth in later test-

imony, but would like to stress at this point that the program before you is considered the minimum essential required.

Unaccompanied Personnel Housing

The FY 1982 Unaccompanied Personnel Housing construction program amounts to \$395.4 million compared with \$227.3 million for FY 1981, an increase of \$168.1 million. The proposed program for modernization and new construction will provide 25,640 adequate spaces, including 14,373 spaces for CONUS installations and 11,087 spaces in overseas areas. The CONUS portion contains housing only for grades E-6 and below, which conforms to the recent policy change that permits personnel in pay grades E-7 and above to live off-base. Examples of the CONUS housing support includes new construction for personnel assigned to the new National Training Center for the Army at Fort Irwin, California, and personnel located at the Naval Submarine Support Base at Kings Bay, Georgia. The overseas portion supports essentially unaccompanied junior enlisted personnel assigned to critical housing locations in the European countries, Korea, and the Republic of the Philippines. The majority of the construction in Europe will support force modernization initiatives in Germany, continue the upgrade of isolated sites in Turkey and reduce housing deficits in the United Kingdom. Unaccompanied housing for Korea will relieve current unsuitable conditions for personnel occupying temporary and antiquated quonset huts. With Congress' support, we are continuing our efforts to reduce the deficiency of approximately 300,000 unaccompanied personnel housing spaces currently reported by the military services.

Medical Facilities

The FY 1982 budget includes \$146.5 million of authorization and \$435.3

million funding for medical facility construction. This request reflects the vital need to make significant headway against the \$2.6 billion backlog of deficient medical facilities. Much of the current inventory of DoD medical facilities was built 25 to 50 years ago, and is today, functionally and physically inadequate to meet the needs of modern medical care. Included in this year's program are major projects at Fort Carson, Colorado, for a replacement hospital, \$81.0 million; Frankfurt, West Germany, for hospital alterations, \$33 million; San Diego, California, for a replacement hospital for the Navy Regional Medical Center, \$204 million; Wright-Patterson Air Force Base, Ohio, \$102.3 million for major additions/alterations; Travis Air Force Base, California, upgrading life safety and supporting functions, \$3.8 million; Sheppard Air Force Base, Texas \$4.0 million for alterations to the existing hospital; and Annapolis, Maryland, for a medical clinic modernization, \$3.0 million.

The outyears of the DoD Five Year Program are planned to continue addressing major deficiencies worldwide. This will include construction of new and modernization of existing hospitals to meet changing support requirements, medical missions, life and electrical safety compliance, and needed troop medical/dental clinics at a variety of installations.

Energy Conservation Investment Program (ECIP)

This is the seventh year of this progressive program to reduce energy consumption in all of our existing buildings and utilities systems. The program is designed to accomplish cost effective retrofit work in older facilities to lower energy-use levels and to achieve significant savings in utility costs.

As a result of the requested Defense Audit Service review of the first three years of the program, we have issued more detailed guidance to the Military Departments to strengthen the program and eliminate identified problems.

Last year we instituted an annual report of actual ECIP Project construction and energy savings and are using the information from this report to further improve the management of the program and optimize results.

We have found that with regard to life-cycle costing, prioritization for funding of projects on the basis of dollar savings only, without regard to energy savings, does not produce the necessary reductions in energy consumption. Accordingly, we shifted the program emphasis to energy conservation by establishing priorities based on energy savings per \$1,000 of investment. Under this criterion, the maximum-energy-saving projects are accomplished first. In order to assure a cost-effective program we require all ECIP projects to have a benefit-to-cost ratio greater than one. We believe, with a criterion based on energy savings rather than dollar savings alone, we can achieve a 12 percent energy reduction from ECIP by 1985 as part of the 20 percent required by Executive Order 12003. An additional 4 percent reduction will be attained by programmed O&M-funded conservation measures including improved maintenance and operating procedures. This effort will include additional operator training, instrumentation calibration and cleaning and tuning of utility systems. Improved administrative practices, voluntary personnel action and replacement of old equipment (e.g. boilers) will be emphasized to achieve the final 4 percent.

In order to achieve a 20 percent decrease in energy use in existing facilities by 1985, we extended the Energy Conservation Investment Program to FY 1984 at a total cost of about \$1.5 billion. We believe this total program cost estimate is valid. In the past six years Congress has authorized and appropriated \$869 million for this work. This year, an authorization of \$223.1 million and an appropriation of \$223.7 million (including \$44.9 million for family housing) are requested for this important program. As retrofit solutions con-

tinue to become more complex, we expect requirements to increase to a peak of about \$275 million by FY 1983. The average amortization period to date is about 5 years and the FY 1982 program payback is estimated at less than 5 years. The resultant energy cost avoidance is estimated to be over \$200 million in FY 1982. We continue to give high priority to the energy conservation effort not only to achieve compliance with Administrative and Congressional directives but also decreased dependence on fossil fuels produces improved facility readiness and avoidance of facilities operations costs.

Pollution Abatement

The DoD is continuing to make a major effort to identify and correct air and water pollution problems while attempting to fully comply with the many state, regional and local requirements. The FY 1982 request contains \$8.6 million for air pollution abatement and \$46.6 million for water pollution abatement.

In the past 13 years, funding from all sources for pollution abatement has exceeded \$2.6 billion. We believe good progress has been made in improving the environmental quality not only for personnel on military installations but also for their neighbors. One of our principal objectives has been to achieve cost effective and timely abatement solutions. As I have stated before to this committee, the program has been difficult at times and continues to have problems. One of the primary reasons is that the many changes and modifications to abatement regulations have made it difficult to focus on a solution in many cases. There have been technical problems in some areas, especially in the proper treatment of industrial waste. The proper disposal of explosives and ammunition is the principal remaining problem in the area of air pollution abatement. We have several projects of this type in the FY 1982 program.

During last year, as the result of GAO direction that EPA should fund Federal Agencies portions of all regional waste water treatment facilities, we deferred programming of some projects. In the light of OMB's counter direction that Federal Agencies should fund their appropriate portion of these regional facilities, we have programmed such a project at Seymour-Johnson Air Force Base in the FY 1982 program. Other similar projects are waiting for local municipality initiatives.

You will note that our FY 1982 request is lower than last year. This is primarily due to the fact that we are completing the majority of the earlier regulatory requirements. But we are unable to accurately predict the end of the pollution abatement effort. It is probable that it will continue into FY 1984, primarily to accommodate the new requirements for best available waste water treatment, oil spill prevention and hazardous wastes and unique explosives disposal. Hazardous waste disposal is one of the least defined areas of future requirements needs. Surveys are currently underway to define the construction necessary to comply with recent amendments to the Resources Conservation and Recovery Act.

DIA Building

The Military Construction Authorization Act of 1981 (P.L. 96-418) approved authorization for construction of a Defense Intelligence Agency facility at Bolling Air Force Base. However, Section 406 of that Act required that no funds be obligated or expended until the Secretary of Defense conducted a study to examine alternatives to construction at Bolling Air Force Base and submitted the study results and his decision regarding the location and scope of the facility to the appropriate committees. A waiting period of thirty days

after submitting this report prior to obligating funds was required by the Congress.

The subject report and the Secretary's decision to proceed at Bolling A.F.B. was delivered to the committees on November 24, 1980. The thirty-day waiting period expired December 23, 1980. Bids were received February 18, 1981. The low bid was within the government estimate and the contract has been awarded. The FY 1981 legislation partially authorized and funded this much-needed facility. The additional authorization and funding required is critical in FY 1982 in order that the construction contract can continue uninterrupted and that vital photographic processing and electronic equipment can be moved into the facility in November 1983. This will bring to an end the risks imposed by leases that are running out and deteriorating environmental conditions in temporary facilities. This schedule will also permit the remainder of the agency to begin occupancy in April 1984 and become fully operational in October 1984.

M-X

Included in the program is a total of \$366 million for MX facilities, including the next phase of the Vandenberg Test Facilities (\$12.9 million), the first increment of land acquisition funding (\$9.5 million), an MX headquarters facility at Norton AFB (\$11.0 Million), and the first increment of M-X operational support facilities (\$332.6 million). The operational support facilities funding provides for the site development, contractor mobilization, operational base test site construction, and purchase of selected long-lead materials. Roads, railroads, utilities, shops, warehouses, administrative facilities, and construction camps will be provided with this funding. With respect to the environmental impact process, the draft environmental impact analysis was released for public comment in December 1980, and we anticipate that the final

environmental impact statement will be completed in mid-1981. The Congress, last year, expressed an interest in the management of this program. We are developing a memorandum of understanding between the Army, Air Force and the Office of the Secretary of Defense and will shortly have in being a combined Working Group which will provide surveillance over the program management. These details of the Construction Management Plan, addressed by the Congress last year are contained in the Environmental Impact documents. Coordination with all other government agencies, professional groups, trade associations, labor groups and elements of industry which will be involved with or impacted by this program will be accomplished by DoD agencies.

TRIDENT Construction

The military construction program, in support of the West Coast TRIDENT Weapons System, is being well-executed. Of the \$554.6 million program appropriated for construction through FY 1981, 92 percent is complete with an additional 5 percent scheduled to be completed by the end of FY 1981. All of the facilities approved through FY 1980 are either completed or underway and all projects in the FY 1981 program are scheduled to be awarded during the fiscal year. The first TRIDENT submarine is expected to arrive at SUBASE Bangor late in 1982. All facilities to support this boat will be completed in advance of this date. Remaining TRIDENT facilities construction is programmed through FY 1984 to support the follow-on submarines and the Navy has requested \$23.1 million in the FY 1982 budget for continuation of this construction at SUBASE Bangor.

The FY 1982 budget also includes \$77.8 million as the initial increment of construction for the Atlantic Coast TRIDENT program at Kings Bay, Georgia. \$12.7 million of this is for 165 units of family housing. Of the remaining

\$65.1 million, over 87 percent is for utilities and site improvements but also includes facilities to support the initial personnel build-up for the TRIDENT program. This request is the first phase of a carefully planned program through 1988 to provide the support facilities for an initial operational capability by October 1989.

The East Coast basing of the TRIDENT Submarine was a separate decision from the site selection made in January 1978 for the relocation of the Rota POSEIDON Squadron. The Secretary of the Navy, on May 24, 1979, announced that Kings Bay, Georgia, was selected as the preferred alternative location for the possible construction of an Atlantic Coast Strategic Submarine Base. This selection initiated a formal process leading to the final selection and approval for construction. The final supplement to the Environmental Impact Statement (EIS) was filed with the Environmental Protection Agency and distributed to the public on September 11, 1980. Based upon the findings, the final site selection of Kings Bay, Georgia, as the Atlantic Coast Strategic Submarine Base was announced by the Secretary of the Navy on October 23, 1980.

Guard and Reserve Components

The FY 1982 authorization request for the Guard and Reserve Components of the Army, Navy, Marine Corps, and Air Force is \$203,000,000 and the appropriation request is \$236,200,000. The FY 1982 program includes projects in 41 states, Puerto Rico and the Virgin Islands. It represents an increase of \$3,000,000 over that authorized for FY 1981. But when inflation is considered, the DoD request for FY 1982 is approximately the same level of effort as in previous years.

Approximately 30 percent of the request is in support of new mission requirements or new equipment assignments as the Guard and Reserve continue to

modernize and take on added responsibilities within the Total Force. The balance of the program is to replace, renovate or expand inadequate facilities that hamper readiness objectives or that fail to meet minimum health, safety, environmental or energy conservation standards.

The program, as proposed, represents the current priorities of the Guard and Reserve Components. Each project has been analyzed to insure that it is located where there has been a demonstrated capability to support the various Guard and Reserve Programs, and planned in the most cost-effective manner.

During the past two years, we have been urging the Guard and Reserve Components to aggressively pursue cost-saving joint-construction projects. In this request, there are ten projects which will build or expand six facilities for joint use.

We will have a separate statement on this vital portion of the Defense program for the separate hearings you have scheduled.

Base Realignments

Knowing the Congress' interest in actions affecting Department of Defense installations, I would like to say at the outset that at this time we are not ~~proposing any~~ new base realignments or closure package. However, this does not rule out the possibility of a package being developed later this year after the new Administration has formalized its budget projections for future years. With regard to our actions on the previously announced proposals, these are continuing.

To summarize, in March 1979 the Military Departments and Defense Agencies announced a number of base realignment decisions and preferred alternatives affecting 157 installations and activities in the United States which, when implemented, would reduce Defense costs by more than \$264 million and elimi-

nate 9,700 military and 5,600 civilian personnel positions throughout the Department of Defense. Subsequently, the status quo was announced for a number of proposals and several were revised or held in abeyance as a result of changed conditions.

To date actions have been implemented which will result in estimated annual savings of \$128 million and reduction of 4,600 military and 3,000 civilian positions. Nine studies which are still underway could result in additional estimated annual savings of about \$100 million and elimination of approximately 2,900 military and 3,400 civilian positions. We expect decisions on most of these actions to be announced within the next several months.

Conclusion

In conclusion, I am appreciative of this opportunity to appear before you today to present the Department of Defense FY 1982 Military Construction Program, and to discuss subjects in the construction, housing and installations areas which are of interest to your Committee. This is a very vital part of the overall Defense Program/Budget. I have attempted to provide you with a comprehensive outline of our continuing efforts to achieve a strong base structure which will measurably contribute to the readiness of the Total Force. We express our appreciation for the understanding and support of this Committee which has been so helpful in past years.

I have with me various members of my staff and together we will be available to answer any questions you may have regarding our proposed program.

Thank you.

RECONCILIATION OF NEW AUTHORIZATION TO APPROPRIATION
(\$ Millions)

Total New Construction Authorization, FY 1982 7,028.842

ADDITIONS

Programs funded under codified authorization		+545.250
Planning and Design (31 USC 723)	(500.650)	
Minor Construction, Guard & Reserve (10 USC 133)	(16.300)	
Defense Access Roads (23 USC 210)	(27.800)	
Minor Land Acquisition	(0.500)	
Foreign Construction Management		+12.150
Projects Authorized but not Funded		+413.915
Prior Year Shortfall Funding		+348.317 ^{1/}
OSD Family Housing & Homeowners Assistance Fund (Authority to obligate earnings)		+24.500
Subtotal, Additions		1,344.132

SUBTRACTIONS

Army Ammunition Plants Financed under Appropriation		-48.986
"Procurement of Ammunition, Army"		-112.400
Project to be Funded in a Subsequent Year		-128.888
OSD Family Housing, Debt Principal Retirement		-5.000
NATO Infrastructure - Additional Recoupment		295.874
Subtotal, Subtractions		295.874

Total Obligational Authority, FY 1982 8,007.700

Appropriation for Family Housing Debt Principal Retirement		+128.888
Authority to Borrow ^{2/}		-0.286
Financing from Receipts ^{3/}		-59.214

Appropriation, FY 1982 8,147.088

^{1/} Includes Navy and Air Force only. Army shortfall incorporated in new authorization and prior year authorization totals.

^{2/} Authority to Assume Mortgages under Homeowners Assistance Program.

^{3/} Includes \$35.0 million recoupment from prefinanced NATO projects; \$20.500 million from Family Housing Reimbursements; \$3.714 million of Proceeds from Sales of Homes under Homeowners Assistance Program.

Enclosure 1

ADDENDUM TO STATEMENT
BY
PERRY J. FLIAKAS
DEPUTY ASSISTANT SECRETARY OF DEFENSE
SUBCOMMITTEE ON MILITARY CONSTRUCTION AND STOCKPILES
SENATE ARMED SERVICES COMMITTEE

MILITARY CONSTRUCTION AUTHORIZATION PROGRAM
FY 1982

	(\$ Millions)			
<u>Facility Class</u>	<u>Army</u>	<u>Navy</u>	<u>Air Force</u>	<u>Total</u>
Operational and Training	110.9	321.5	824.0	1256.4
Maintenance and Production	219.3	129.0	68.8	471.2
Research and Development Facilities	28.8	26.4	375.4	430.6
Supply Facilities	40.0	19.9	22.8	82.7
Hospital and Medical	33.4	3.0	110.1	146.5
Administrative Facilities	19.6	22.8	60.2	102.6
Housing and Community	210.6	210.6	81.1	502.3
Utilities and Ground Improvements	130.0	385.5	98.5	614.0
Real Estate	29.0	35.0	22.3	86.3
Exigent Minor Construction	<u>28.0</u>	<u>21.6</u>	<u>17.8</u>	<u>67.4</u>
<u>Subtotal</u>	849.6	1,175.3	1,681.0	3,705.9
Defense Agencies				326.1
NATO Infrastructure				425.0
Family Housing				2,368.9
Guard/Reserve Forces				<u>203.0</u>
<u>TOTAL</u>				7,028.9

Enclosure 2

ADDENDUM TO STATEMENT

by

Perry J. Fliakas

Deputy Assistant Secretary of Defense

(Installations and Housing)

Before the

Subcommittee on Military Construction and Stockpiles

Armed Services

Senate Armed Services Committee

Proposed Construction in Major Categories of Facilities Active Forces

(Title I, II, III, IV, V)

The Active Forces portion of the Military Construction Authorization Program for Fiscal Year 1982 totals \$3.706 billion for the three Military Departments, \$326.1 million for the Defense Agencies, and \$425 million for NATO Infrastructure. This portion of the program is related to the regular military establishment and provides for facilities and installations necessary to meet operational, logistical and other mission requirements of the three Military Departments and Defense Agencies, other than family housing. For purposes of easy summation, we have grouped the total request into ten standard Department of Defense categories. I would like to describe the principal items contained in each of these categories for the individual Departments. I will omit reference to the Defense Agencies, NATO Infrastructure, and the Guard and Reserve Forces in these descriptions, inasmuch as I will summarize their requirements separately at the end of this presentation. The first of the categories is:

Enclosure 3 .

Operational and Training

\$1,256.4 million

The operational facilities contain essential airbase, fleet operations support, communications, security, command and control, and other operational facilities necessary to support the combat readiness capability of the Services. Under training facilities we seek to provide the instructional and training facilities necessary to the development of not only the basic soldier, seaman, airman and marine, but also the technical and professional specialists required to operate, maintain and repair the complex tools of modern war.

Army	-	\$110.9 million
Navy	-	\$321.5 million
Air Force	-	\$824.0 million

The \$110.9 million Army request includes \$53.2 million for 8 operational facilities and \$57.7 million for 14 training facilities. Operational facilities include various Rapid Deployment Force facilities for \$36.0 million, an Operational Intelligence Building for \$2.1 million, an airfield upgrade project for \$6.3 million, \$3.8 million for airfield parking, \$1.5 million for a Field Operations building, and \$1.6 million for two other miscellaneous operational facilities. In addition, a special support facility for \$1.9 million is included. Training facilities include such significant projects as a tank crew Qualification Range in Germany (\$15.0 million), a range upgrade in Germany (\$5.8 million), a Roland Training Facility (\$4.7 million), and a Flight Simulator Building in Germany (\$9.9 million). In addition, the request includes \$11.6 million for six battalion headquarters facilities and \$10.7 million for five other miscellaneous training facilities.

Of the \$321.5 million included in this category for Navy, \$271.0 million is for operational facilities and \$50.5 million for training facilities. Of

the \$271.0 million for operational facilities, \$20.9 million will provide airfield facilities at five installations, \$7.7 million for communication facilities at four installations, \$20.1 million for operational facilities at ten installations, \$51.3 million for waterfront facilities at three installations and dredging at three installations, and \$171.0 million for facilities in the Indian Ocean/Persian Gulf. Training facilities total \$50.5 million at 15 installations.

The Air Force program for operations and training facilities totals \$824.0 million, of which \$789.8 million are for operational facilities and \$34.2 million are for training facilities. Significant items within the operational facilities portion include \$313.4 million for Rapid Deployment Force-related facilities in Lajes, Portugal; Oman; Egypt; and Diego Garcia; \$102.3 million for air-launched cruise missile (ALCM) facilities at various installations; \$69.1 million for ground-launched cruise missile (GLCM)-related facilities at various installations; \$57.6 million for an unspecified special project; \$40.3 million for minimally-attended radar facilities in Alaska; \$37.1 million for minimum essential facilities in Europe; \$17.7 million for two unit relocations in Europe; \$7.7 million for aircraft instrument landing/navigational facilities at 12 installations; \$10.3 million for airfield pavement improvements at 4 installations; \$23.0 million for an AWACS alert facility; \$19.0 million for TR-1 aircraft beddown; \$13.6 million for communications-related facilities; \$13.9 million for aircraft shelter facilities; \$9.8 million for chemical warfare protection facilities; \$6.9 million for a B-52 alert complex; \$14.0 million for an Aerospace Data Facility; and \$34.1 million for miscellaneous operational requirements at 16 installations. In addition, the \$34.2 million for training facilities will provide \$24.5 million for seven flight simulator training facilities and \$9.7 million for one GLCM training facility, two field

training facilities, and one computer technical training facility.

Maintenance and Production Facilities

\$471.2 million

This category includes all types of facilities necessary for the production, maintenance and repair of military hardware, including field and depot maintenance shops and hangars, shore-based marine maintenance facilities for the fleet, and production, assembly and maintenance facilities for rockets, missiles and various types of conventional ammunition.

The totals of the Services' requests for such facilities are:

Army	-	\$291.3 million
Navy	-	129.0 million
Air Force	-	68.8 million

Items in the Army request include 43 projects at 30 locations and provide \$7.3 million for three aircraft maintenance facilities; \$83.7 million for tactical equipment ships at 21 installations; \$18.4 million for direct support/general support maintenance facilities at three locations; and \$60.9 million for 13 miscellaneous maintenance facilities at 13 locations.

Significant items in the Navy request for maintenance and production, facilities include \$80.9 million related to aircraft maintenance at 11 installations; \$20.2 million for ships maintenance facilities at 5 installations; and \$27.9 million for other maintenance facilities at 10 installations.

The construction requested by the Air Force in this category will provide \$27.0 million for aircraft maintenance and support facilities at 14 locations; \$3.5 million for 6 sound suppressor facilities; \$6.4 million for hardened logistics facilities; \$4.4 million for 3 avionics maintenance facilities; \$2.0 million for aircraft fuel system maintenance facilities at 2 installations;

\$4.5 million for automotive and refueler vehicle maintenance facilities at 3 locations; and \$21.0 million for 14 additional miscellaneous maintenance facility requirements.

Research and Development Facilities \$430.6 million

This portion of the construction program is necessary to sustain our search for new and improved weapons systems. The Department considers the projects included herein to be highly essential and vital to the maintenance of United States leadership in the development and testing of new defense systems.

The totals of the Services' requests for R&D facilities are:

Army	-	\$28.8 million
Navy	-	\$26.4 million
Air Force	-	\$375.4 million

The Army's request consists of two projects at two locations. The most significant is the modernization of a research facility at Fort Monmouth, New Jersey for \$26.0 million while the other project is a kinetic energy launch system at Aberdeen Proving Ground for \$2.8 million.

The Navy's request under this category includes \$26.4 million for research, development and test facilities at eight installations.

The Air Force Program for RDT&E facilities contains a total of six projects, two of which provide \$9.3 million for space shuttle facilities. In addition, the program provides \$345.5 million for M-X missile facilities; \$5.5 million for a biotechnology laboratory; \$8.3 for a Systems Management Engineering Facility; and \$6.8 million to add to and alter an R&D computer complex facility.

Supply Facilities \$82.7 million

This category includes various supply facilities, including fuel storage,

ammunition storage, cold storage, depot and arsenal warehouses and open storage facilities.

Army	-	\$40.0 million
Navy	-	\$19.9 million
Air Force	-	\$22.8 million

The Army's request includes 20 projects at 18 locations, the most significant of which are the \$11.6 million Ammunition Supply Point at Fort Stewart, Georgia, and the \$7.3 million POL Pipeline Storage facility in Korea. In addition, the request includes \$2.0 million for the expansion and alteration of the Depot Operations Facility at the Red River Army Depot, Texas; \$2.6 million for a basic load site at Hanau, Germany; and \$16.5 million for 16 POL, warehouse and other supply-related facilities.

The Navy's request includes \$3.9 million for cold storage warehouses at two installations; and \$16.0 million for other supply support and warehouses at seven installations.

The \$22.8 million requested for supply facilities for the Air Force will provide \$4.8 million for munitions storage facilities at three locations; \$16.8 million for jet fuel storage facilities at three overseas locations; and \$1.2 million for an addition to a cold storage facility.

Hospital and Medical

\$146.5 million

Replacement and modernization of our outmoded and deficient medical facilities remains as one of our important construction priorities. Much of the current inventory of DoD medical facilities were constructed from 25 to 50 years ago and today are functionally and physically inadequate to meet the needs of modern medical care. The fiscal year 1982 budget includes a significant increment of the unmet medical construction requirement.

Total Service requests for hospital and medical facilities are:

Army	-	\$ 33.4 million
Navy	-	\$ 3.0 million
Air Force	-	\$110.1 million

The Army request is made up of two projects, most important of which is the \$33.0 million hospital alteration project in Frankfurt, Germany. The remaining project provides \$0.4 million for a medical facility upgrade at Fort Irwin, California.

The Navy request provides \$204.0 million for the second increment of the San Diego Naval Hospital replacement project which was authorized in the FY 1981 program and \$3.0 million for a medical clinic modernization at Annapolis.

The Air Force request covers three projects and provides \$102.3 million for an addition and alterations to the Composite Medical Facility at Wright-Patterson Air Force Base, Ohio; \$3.8 million for life safety upgrading at Travis Air Force Base, California, and \$4.0 million for alteration of the hospital at Sheppard Air Force Base, Texas.

<u>Administrative Facilities</u>	\$102.6 million
----------------------------------	-----------------

This category includes various administrative facilities such as headquarters, squadron operations, and similar facilities. The totals of the Services' requests for such facilities are:

Army	-	\$19.6 million
Navy	-	\$22.8 million
Air Force	-	\$60.2 million

Army's request provides six administrative facilities at six locations and includes \$6.7 million for the renovation of an administration building at Fort Leavenworth, Kansas; \$4.0 million for alteration of a headquarters building at Rock Island Arsenal, Illinois; \$3.6 million for building modifications

at Fort Douglas, Utah; and \$5.3 million for administrative buildings at three locations in Turkey.

The Navy's request includes \$4.2 million for pay and personnel support offices at three installations; \$11.7 million for administrative facilities at Bangor Submarine Base, \$2.4 million for administrative facilities at the Kings Bay Submarine Base, and \$4.5 million for other administrative facilities at three installations.

The \$60.2 million Air Force request for administrative facilities will provide \$30.0 million for 31 data processing facilities, \$11.0 million for an M-X headquarters facility, \$9.0 million for an RDJTF Headquarters, and \$10.2 million for a consolidated support center, and two other miscellaneous administrative facilities.

Housing and Community Facilities

\$502.3 million

Unaccompanied personnel housing is one of the most important and vital requirements in our construction program. We recognize the importance of this item in the career retention of trained and qualified personnel in the military service, and believe implicitly that improved housing will provide both immediate and long-range benefits through increased reenlistment, heightened morale, and reduced recruitment costs. The Services' programs in Fiscal Year 1982 are:

Army	-	\$210.6 million
Navy	-	\$210.6 million
Air Force	-	\$ 81.1 million

The unaccompanied personnel housing and community facilities projects in each of the Department programs are summarized as follows:

Unaccompanied Personnel Housing

	<u>New Construction</u>		<u>Modernization</u>	
	<u>Spaces</u>	<u>Millions</u>	<u>Spaces</u>	<u>Millions</u>
<u>Officer Housing</u>				
Army	11	1.5	0	0
Navy	62	9.0	0	0
Air Force	<u>0</u>	<u>0</u>	<u>10*</u>	<u>.2</u>
Total	73	10.5	10*	.2

Enlisted Housing

Army	4,731	\$103.3	826	\$ 6.4
Navy	9,959	166.0	3,620	38.9
Air Force	<u>1,718*</u>	<u>30.9</u>	<u>4,523*</u>	<u>39.2</u>
Total	16,408	300.2	8,969	84.5

* Includes 700 spaces for \$11.8 million identified in the Air Force Operational Facility Category in support of the Ground Launched Cruise Missile and 294 spaces for \$9 million in the personnel support facilities category for Turkey.

Troop Housing Administration, Supply and Other

	<u>Number of</u>	
	<u>Projects</u>	<u>Millions</u>
Army	8	\$32.9
Navy	1	0.5
Air Force	<u>0</u>	<u>\$ 0</u>
Total	9	\$33.4

Dining Facilities

	Number of <u>Projects</u>	<u>Millions</u>
Army	1	\$ 0.4
Navy	1	\$ 5.4
Air Force	<u>1</u>	<u>\$ 3.8</u>
Total	3	\$ 9.6

Community Support Facilities

	Number of <u>Projects</u>	<u>Millions</u>
Army	22	\$66.1
Navy	21	\$26.0
Air Force	<u>6</u>	<u>\$19.7</u>
Total	49	\$111.8

The Army's community facilities program includes \$40.6 million for 13 recreational facilities, and \$25.5 million for 9 additional miscellaneous community-support type facilities.

Included within the Navy's program for community facilities are \$1.9 million for police and fire stations; \$4.1 million for chapels and religious education buildings at three installations; \$4.0 million for a commissary at Bangor; \$1.9 million for family services centers at five installations; \$3.9 million for gymnasiums at two installations; and \$10.3 million for child care centers at eight installations.

The Air Force request includes \$6.9 million for a composite support center; \$6.0 million for two gymnasiums, \$1.6 million for a chapel center, \$1.2

million for a library, \$4.0 million for personnel support center, and \$3.8 million for a dining hall.

Utilities and Grounds Improvements

\$614.0 million

This portion of the program provides for expansions and additions to utility systems and road nets at various U. S. and overseas locations. As in FY 1981, a significant element of this year's program is directed toward further implementing the national policies for controlling water and air pollution and for energy conservation. The Military Department totals in this category are as follows:

Army	-	\$130.0 million*
Navy	-	\$385.5 million
Air Force	-	\$ 98.5 million

*Includes \$11.1 million for OSHA-related projects.

In compliance with federal, state, and local air and water pollution control regulations and Executive Order 12088, there is included a total of \$53.6 million for 30 pollution abatement projects as a continuation of the program begun nine years ago to eliminate pollution at our military installations. All of these projects have been coordinated with the Environmental Protection Agency.

The pollution abatement projects in each of the Department programs are summarized as follows:

POLLUTION ABATEMENT PROGRAM

	<u>Air Pollution Abatement</u>			<u>Water Pollution Abatement</u>		
	<u>\$Mil.</u>	<u>Projects</u>	<u>Installations</u>	<u>\$Mil.</u>	<u>Projects</u>	<u>Installations</u>
Army	6.6	3	3	4.8	7	7
Navy	2.0	2	2	33.7	15	15
Air Force	<u>0</u>	<u>0</u>	<u>0</u>	<u>6.4</u>	<u>3</u>	<u>3</u>
Total	8.6	5	5	44.9	25	25

As part of the Department of Defense energy conservation program, a multi-year energy conservation investment program has been established. The FY 1982 Military Construction Program represents the seventh year of this conservation investment program. Projects in this program are self-amortizing, averaging less than six years, and are limited to retrofitting of existing facilities so as to achieve hard energy savings. The energy conservation investment projects in each of the active Service programs are summarized as follows:

Energy Conservation Program			
	<u>\$Millions</u>	<u>Projects</u>	<u>Installations</u>
Army	69.5	42	34
Navy	50.0	33	33
Air Force	48.0	44	39
Total	169.2	122	106

The Army's request includes \$11.4 million for pollution abatement; \$69.5 million for 42 energy conservation projects; and \$38.0 million for 15 utility projects world-wide, and \$11.1 million for OSHA-related projects.

Significant items included in the Navy's request for utilities include \$35.7 million for pollution abatement; \$50.0 million for energy conservation projects; \$42.9 million for electrical and waterfront utilities facilities at eight installations; \$37.6 million for a steam plant at Bremerton; \$20.0 million for heating plant coal conversion at Indian Head; \$7.2 million for two heat distribution line projects; \$20.2 million for water treatment and distribution lines at five installations; \$15.4 million for other utility projects at six installations; and \$44.0 million for utilities at the Kings Bay Submarine Base.

This portion of the Air Force FY 1982 Military Construction Program consists of \$6.4 million for water pollution abatement; \$48.0 million for energy conservation projects; and \$44.0 million* for 15% utility projects.

Real Estate

\$86.3 million

This portion of the program provides for real estate acquisitions. The Department requests in this category are as follows:

Army	-	\$29.0 million
Navy	-	\$35.0 million
Air Force	-	\$22.3 million

The Army request provides \$29.0 million for the acquisition of 244,000 acres of land for Fort Carson, Colorado.

The Navy's request provides \$1.3 million for fee acquisition of 18 acres at Concord, \$1.7 million for 11 acres at Oakland, and \$32.0 million for a land lease in the Mariana Islands.

The Air Force request provides \$11.8 million for air installation compatible use zones (AICUZ) at three locations, \$9.5 million for land for the M-X missile system, and \$1.0 million for two other miscellaneous land acquisitions.

Defense Agencies (Title IV)

\$326.1 million

The request for activities of the Defense Agencies is \$354.1 million for new construction, which includes \$6.2 million for minor construction, and \$30.0 million for the Secretary of Defense Contingency Fund.

*Figures include "Energy Showcase" project at McClellan Air Force Base, California, for \$8.0 million.

Defense Communications Agency

\$0.9 million

The \$0.9 million provide for the expansion of the present Defense Communications Agency Building at Patch Barracks to accommodate the new mission of managing the European Telephone System.

Defense Intelligence Agency

\$72.5 million

The \$72.5 million will provide additional authorization for a new Analysis Center for the Defense Intelligence Agency at Bolling Air Force Base, Washington, D.C. This project was authorized and partially funded for \$32.7 million in FY 1981 with the balance to be included in the FY 82 request.

Defense Logistic Agency

\$71.6 million

The \$71.6 million will provide for eighteen construction projects to acquire and improve storage and distribution for Defense Logistics Agency products to improve safety, reduce energy consumption, and to provide fuel storage for Far East contingencies.

Defense Mapping Agency

\$10.8 million

The Defense Mapping Agency is requesting \$10.8 million for building alterations and equipment relocation at the Aerospace Center in Saint Louis.

Defense Nuclear Agency

\$0.5 million

The \$0.5 million request provides a single specified minor construction project to improve environmental conditions at the Armed Forces Radiobiology Research Institute in Bethesda, Maryland.

National Security Agency

\$57.6 million

The \$57.6 million requested by the National Security Agency will provide for a \$55.1 million building addition at the headquarters, Fort Meade, Maryland, as part of a long range program to accommodate increased mission requirements and consolidation of operations. A second project (\$2.5 million) will provide for the installation of fire protection equipment in the existing operations building at Fort Meade.

Office of the Secretary of Defense

\$78.3 million

Included under the Office of the Secretary of Defense request are three classified projects for \$14.1 million and eleven projects for Dependents Schools.

Contingency Fund

\$30.0 million

The Department of Defense is requesting \$30.0 million for emergency construction authorization and funding for the Secretary of Defense to provide for construction deemed vital to the security of the United States.

Exigent Minor Construction

\$ 4.0 million

This portion of the budget request includes \$4.0 million for funding exigent construction projects authorized under standing legislation contained in 10 USC 2674. The \$4.0 million will satisfy unforeseen project requirements costing \$500,000 or less, which, based on historical data, will develop and will be required prior to the availability of subsequent year construction funds.

NATO Infrastructure (Title V)

\$425 million

Included in the FY 1982 Military Construction request is \$425 million for the United States contribution to the multi-national funded NATO Infrastructure program.

Guard and Reserve Forces Facilities (Title VIII)

\$203.0 million

The request for Guard and Reserve Forces includes \$203.0 million for new construction in 41 states, Puerto Rico, and the Virgin Islands.

Army National Guard

\$41.5 million

The Army National Guard request includes 24 Armory projects, including 2 to be jointly constructed with the Army Reserve, 13 vehicle storage and maintenance facilities, 4 flight facilities, and 18 general support and training site improvements. Projects are at 48 locations in 28 states and the Virgin Islands.

Army Reserve

\$30.4 million

The Army Reserve request will provide for the renovation and expansion of 11 Reserve Centers, construction 2 new Reserve Centers, an Equipment Construction site, a range facilities project, 2 Area Vehicle Maintenance facilities and 3 flight facilities. The projects are at 20 locations in 16 states. They include two joint projects with the Army National Guard and one joint project with the Naval Reserve.

Naval and Marine Corps Reserve

\$23.9 million

The Naval and Marine Corps Reserve request includes eight projects in support of aviation programs, one new reserve center, and the expansion of three other reserve centers. The projects are at eight locations in eight states. They include additions to an Army Reserve Center for joint utilization with the Marine Corps Reserve.

Air National Guard

\$78.7 million

The Air National Guard request includes 32 projects at 24 locations in 19 States and Puerto Rico. Approximately \$35.8 million is associated with new missions in support of new aircraft assignments.

Air Force Reserve

\$28.5 million

The Air Force Reserve request includes 21 projects at 14 locations in 13 states. Approximately \$18.0 million is associated with new missions to support new aircraft assignments.

FAMILY HOUSING, DEFENSEAUTHORIZATION FOR APPROPRIATION REQUESTED FOR FY 1982 (\$000):FAMILY HOUSING, DEFENSE \$2,366,888HOMEOWNERS ASSISTANCE FUND, DEFENSE \$2,000

<u>FUNDING PROGRAM (\$000)</u>	<u>FY 1982</u>
Construction of New Housing (2,117 units)	\$ 168,785
Construction Post Acquisition	109,819
Design and Advance Planning	9,100
Appropriation Request, Construction	\$ 287,704
Operation and Maintenance	\$1,827,264
Operating Expenses	\$991,447
Maintenance	835,817
Leasing	\$ 122,317
Domestic	\$ 8,600
Foreign	113,717
Debt Payment	\$ 150,103
Principle	\$128,888
Interest and Other Expense	19,290
Servicemen's Mortgage Insurance	
Premiums for Existing Coverage	1,925
Total O&M and Debt Payment	\$2,099,684
Less: Resources Applied	-20,500
Appropriation Request, O&M and Debt Payment	\$2,079,184
Family Housing, Defense, Appropriation Request	\$2,366,888
Homeowners Assistance Program	
Homeowners Assistance Fund, Defense,	
Appropriation Request	\$ 2,000
Total Appropriation Request	\$2,368,888

ADDENDUM TO STATEMENT
BY
PERRY J. FLIAKAS
DEPUTY ASSISTANT SECRETARY OF DEFENSE
(INSTALLATIONS AND HOUSING)
BEFORE THE
SUBCOMMITTEE ON MILITARY CONSTRUCTION AND STOCK PILES
SENATE ARMED SERVICES COMMITTEE
RESPONSES TO ISSUES RAISED IN COMMITTEE REPORTS

House Armed Services Committee Report 96-1009
Senate Armed Services Committee Report 96-915
Conference Armed Services Committee Report 96-1399

Community Impact Assistance. Section 801 of Public Law 96-418 authorizes \$5,000,000 to assist communities near MX Weapon System sites and \$1,000,000 to assist communities near the East Coast Trident Base. Procedures are developed to transfer the MX sites funds and East Coast Trident Base funds through an appropriate Federal Agency. Section 802 authorizes the Secretary of Defense to assist communities located near MX Weapon System sites and the East Coast Trident base in meeting the costs of providing increased services and facilities. The assistance program will be carried out through existing Federal programs. The Departments of Navy and Air Force have been requested to develop assistance requirements. Section 803 directs the President to conduct a study to determine the most effective and practical means of mitigating the impact on communities caused by major new Defense facility construction. Conduct of the study has been delegated by OMB to the Economic Adjustment Committee. The study involves close cooperation with appropriate local and state officials. The draft study, together with comments and recommendations, was submitted to Congress on March 23, 1981. The final report will be forwarded in May 1981.

Enclosure (5)

Metering of Family Housing Units. The House Appropriations Committee, in their Report Number 96-1097, recommended and the Appropriations Conference Committee endorsed the position that the Department of Defense should meter new family housing construction and major modernization projects. Defense was directed to submit a plan for family housing metering that can be considered with the FY 1982 request. However, the Armed Services Committees rescinded the authorization for metering contained in the FY 1978 Military Construction Authorization Act. Accordingly, until a uniform Congressional direction is established, and Defense is authorized to accomplish metering, we have taken and will continue to take the following actions:

1. All new family housing construction and significant alteration or rehabilitation projects, as a minimum, will provide meter "drops" for electric and heating/cooking fuels for each unit -- for detached single units, metering will be accomplished in all cases;

2. Continue our emphases on energy conservation investment projects; and

3. Pursue consumer education programs within each of the services.

Ft. Douglas, Utah. In report 96-915, the Senate denied authorization for an Active Army building modification project at Ft. Douglas, Utah which it considered appropriate to be accomplished under the Army Reserve Title. The project was to support the closure of Ft. Douglas which was subsequently deferred by the Appropriations Committee.

After reevaluating both the proposed closure and the proposed project, it is our opinion that closure should proceed and that the project should be included in the Active Army's program. The reason for our position is that the project would not be programmed at this time except for the Active Army's decision to close Ft. Douglas. Our long standing policy which implements 10 USC 2235(b) requires the Active Forces to provide suitable alternative facilities whenever they displace Reserve Forces from their facilities.

Additionally, it is noted that a portion of the project includes work to preserve the Ft. Douglas cemetery, which is not a Reserve function, and that savings accruing to the Reserves as a result of the closure are less than half those accruing to the Active Army.

Solar Energy Systems. The direction of the House Armed Services Committee in this report 96-1009 and incorporated in section 804 of Public Law 95-356 requires that life-cycle cost analysis of potential solar energy application projects be performed using undiscounted, constant dollars over the life of the facility and that the maintenance cost differential of these systems over conventional systems be considered zero.

The economic analysis constraints of section 804 are in direct conflict with the direction of the Military Construction Appropriation Act Section 116 of Public Law 96-436 which requires the use of a 7 percent discount factor and appropriate additional maintenance costs.

While the Department fully supports and is actively searching for solar system applications, it is not believed that any alternative energy source evaluations should be biased by the warping of realistic economic analysis parameters. While the use of undiscounted dollars and zero maintenance costs would result in the installation of significantly more solar systems, these assumptions are considered incorrect. It is our position that all energy conservation options be evaluated with conventional economic analysis procedures and that the most cost-effective options be given priority within the available funding. We have had numerous consultations with solar system experts who universally recommend the use of additional annual solar system maintenance costs of from 1 to 4 percent of the initial cost, depending on the size and complexity of the system.

Under the direction of section 804 we are continuing to program and design solar systems for new facilities using undiscounted dollars and no additional maintenance in our life cycle analysis calculations. Using these constraints we have approximately \$13 million of such systems in our FY 82 program for active forces and family housing. We do believe, however, that we must follow the direction in FY 81 of section 116 of Public Law 96-436 when awarding construction contracts. If this legislative direction continues in the FY 82 program, additional design funds and manpower will be wasted. Therefore, this year's proposed authorizing legislation contains appropriate language to eliminate the current conflict in law.

Air Force Solar Energy. The Senate Armed Services Committee in their report 96-915 identified the lack of solar projects in the Air Force's FY 1981 program and urged the Air Force to "get with the program". In the current program the Air Force has included \$5.6 million of solar systems in new construction including \$2 million in the MX program effort and \$2 million of solar system retrofits under the Military Family Housing Energy Conservation Investment Program.

Solar Economic Analysis. The Senate Armed Services Committee in their report 96-915 included the economic analysis procedural language of 10 U.S.C. 2688 in the Bill and made clear the DoE procedures of the January 23, 1980 Federal Register do not apply to solar systems considered for Defense projects. The Department has used the "undiscounted, non-constant dollars" and zero additional solar system maintenance constraints of 10 U.S.C. 2688 in programming projects for the FY 1982 Military Construction Program. We do, however, feel that the use of undiscounted dollars and zero maintenance costs is an excessive biasing of the economic analysis of solar applications and would much prefer to analyze and prioritize all conventional and alternative energy conservation options

using conventional life-cycle costing procedures. Therefore this year's proposed authorizing legislation contains appropriate language to eliminate the current conflict in law.

Minimize International Balance of Payments. The House Armed Services Committee in their report Number 96-1009 was concerned that United States contractors should receive as much of the construction work in the Indian Ocean area as possible. The Committee was also concerned with expenditures entering the International Balance of Payments (IBOP) and would like to see the Department of Defense minimize these expenditures. It was the intent of the Committee to ensure that United States-owned contracting firms have an opportunity to compete for construction and dredging at Diego Garcia and construction in Indian Ocean littoral countries on an equitable basis. The Department of Defense developed a construction policy for this region which provides for American preference and should alleviate many of the concerns discussed by the Committee.

Army Construction Supervision Costs. The Senate Armed Services Committee noted (Senate Report 96-915) that the Army has increased its construction supervision, inspection and overhead (SIOH) costs from 5 percent (FY 1980) to 6.5 percent (FY 1981) for overseas construction projects, voiced its concern and noted that the Army will be requested to present detailed justification for any future budget request that included such high SIOH rates.

The FY 1982 military construction includes a SIOH rate of 6.5 percent for overseas construction projects. This amount approximates the actual expenses which we have experienced now for several years. The increase noted last year was a budget increase, not an actual expense increase. Actual expenses have been running at about 6.5 percent for several years; and, while the overseas programs were small compared to the total program, these additional costs

could be absorbed. Now, with larger overseas programs in being, it is imperative that they should be budgeted at the 6.5 percent SIOH, such that they not be subsidized by the CONUS program.

Use of United States Construction Materials and Flag Vessels. The Armed Services Conference Committee in its Report Number 96-1399 expects full compliance with the spirit and intent of Section 405(e) of the Authorization Act, which states that none of the funds appropriated pursuant to this subsection may be obligated or expended to carry out any contract for the construction of any contingency facilities referred in such subsection unless contract requires that (1) all construction materials (except cement, cement products, and aggregate) used in the construction of such facilities under such contract will be materials produced, manufactured or refined in the United States, and (2) materials will be transported in United States flagships from the United States to the country in which the contingency facility is to be located. This provision also applies to the construction of the naval support facility at Diego Garcia. The stated objective of the provision is to give American contractors a reasonable chance of success in bidding on contracts for construction of contingency-funded facilities. Since foreign competitors are, however, just as able to provide United States materials and shipping as are American contractors, it is not clear how the provision will contribute to the comparative advantage of United States construction firms. Additionally, this is an extremely restrictive provision and, especially on small contracts, presents almost insoluble problems. On several projects, we will be modifying or expanding existing facilities that were constructed to foreign standards and codes with other than United States materials. We are first faced with the practical and technical difficulty of

integrating United States materials into these systems, problems which will be compounded later during project maintenance. Moreover, to require a local contractor, for example, to purchase small quantities of runway paint or aircraft tie-down steel in the United States and ship them on United States flagships, even if they are available, is very cost ineffective. Unlike the Buy American or IBOP programs, this provision imposes no limit on the premium we must incur to use American materials nor is the test of availability of United States shipping applicable, as it is in the 1907 Cargo Preference Act which already applies to this as well as any overseas construction program.

The Department of Defense believes that the existing shipping laws, together with our American Preference Policy for the Indian Ocean/Persian Gulf region, effectively support the intent of the Congress. In view of the very serious practical problems created by Section 405(e), we, therefore, urgently request that it be rescinded.

Settlement of Family Housing Construction Claims. (Senate Armed Services Committee Report 96-915)

FY 1981 legislation provided general authority to settle contractor claims, payment of which would effect violation of previously authorized limitations. Notification of the Armed Services Committees is required in such cases as is a waiting period of thirty days.

No claims have been settled or paid since receiving this authority (Oct 10, 1980) which could not be accommodated within existing authorities.

Housing at Fort Stewart, Ga. and Fort Polk, La.

During review of the housing requirements at Fort Stewart, Ga. and Fort Polk, La., the House Armed Services Committee, in their report 96-1009 expressed concern for the long range personnel strength build-ups planned by the Army in view

of current manning levels. The committee expects the Department of Defense to reevaluate the requirement for these projects prior to proceeding with construction.

The requirements for Fort Stewart, Ga. and Fort Polk, La., which were reevaluated by this office, support the need to proceed with the family housing projects in the FY 1981 program. Based on a visit to the Fort Stewart area by a DoD representative, it was determined that a substantial increase in military personnel has occurred in support of Fort Stewart's rapid deployment force mission. For example, the Fort Stewart on-board strength has increased by 2,300 personnel (from 12,993 to 15,293 personnel) from February to December 1981 and currently exceeds its planned personnel strength levels for FY 1982. Within the same periods the personnel strength at Fort Polk has increased by 1,479 personnel (from 11,671 to 13,150 personnel). This review is part of our continuing policy to certify the need for family housing acquisition projects prior to proceeding with construction.

Construction in Europe. In its report number 96-915, the Senate Armed Services Committee indicated that it was disturbed by the large increase in the request for construction funds in Europe for fiscal year 1981. As mentioned earlier in this statement, there is again, a sizeable increase in this area in the fiscal year 1982 request. In reviewing the Service requests, the Office of the Secretary of Defense carefully reviewed each project to insure that funds were being requested for projects/programs that were (1) not eligible for NATO Infrastructure funding and (2) were required in 1982 to meet weapon system deployment, urgent facility modernizations requirements, and remote site upgrade programs. The Army is introducing its PATRIOT, Multiple Launch Rocket System, the XM-1 tank and the Combat Electronic Warfare Intelligence (CEWI) systems

into the European theatre, and logistics and support facilities are required for these systems in the 1982 budget request. Similarly, the Air Force needs like facilities for the Ground-Launched Cruise Missile (GLCM) in the United Kingdom and Italy in the same timeframe. Although there is a significant increase in the unilaterally-funded construction programs in Europe, the program has been closely screened by all appropriate echelons within the Department of Defense, and I believe the composition of the program is correct and necessary to adequately support the combat missions assigned to our troops in Europe.

The Committee further indicated that the allies, through Host Nation Support procedures, should provide more of the facility requirements in Europe and reduced the Department request in order to emphasize this point. Both Defense and the State Departments are actively pursuing host nations in particular Germany, the Benelux, and the United Kingdom, to accept some HNS commitments. The response has been generally favorable on wartime support and we are preparing to move with proposals for peacetime support and related facility programs to be funded, at least in part, by the host. Preliminary discussion on these have already taken place in Bonn. We do not expect that we can receive significant offset programs as such and we are concentrating on efforts in more specific areas like work-place rehabilitation.

The Committee also put the Department on notice that before it considers any facility requirements ~~deleted~~ that there must be an agreement with the host nation involved to fund all, or at least a major part of the new facilities required. A first approach has already been made to the German Ministry of Defense through the U.S. Embassy in Bonn and has resulted in a positive preliminary exchange. We were able to deal with a number of German questions and to clarify the U.S. assumptions and objectives,

particularly with regard to Phase II. ~~Deleted~~

The FY 1982 program has been developed within and is consistent with the framework of the plan.

NATO Infrastructure. The Senate Armed Services Committee in its report number 96-915, stated that for the first time it was including an authorization for the current 5-year slice group. The Department was pleased to see this action on the part of the committee for it reflects a legislative commitment to an international agreement undertaken by the executive branch of the government. The Committee will be advised of any change to the ceiling of the current slice group or of any change to the U.S. percentage share of the cost of the NATO Infrastructure program.

European Construction. During Armed Services Conference Committee negotiations, as reflected in its Report Number 96-1399 the Senate acceded to the House and funds were authorized for improvement of training ranges in Germany. The Conferees served notice to the Department that changes should be sought to the NATO criteria to permit future improvements to be funded by the NATO Infrastructure program without any loss of U.S. control over the use of the ranges.

The U.S. Army European Command (USAREUR) has confirmed with U.S. Mission to NATO that the possibility exists that NATO may provide funds for facilities while retaining U.S. control over the training areas, thus complying with the wishes of the Committees. USAREUR is currently developing a proposal which it intends to formally submit to NATO and host countries outlining this funding and operational concept, early in CY 1981. Army has also included funds in their FY 1982 budget for urgent training facility requirements in Europe.

The Office of the Secretary of Defense is supportive of the Army's two-pronged attack to (1) pursue negotiations with NATO and host countries as directed by the Committees, and (2) seek Congressional approval in FY 1982 of critical training area projects which are required to meet near-term readiness objectives.

FY 1981 SUPPLEMENTAL
MILITARY CONSTRUCTION PROGRAM

<u>Installation</u>	<u>Project</u>	<u>Auth</u>	(\$000) <u>Approp</u>
	<u>ARMY</u>		
Vilseck, GE	Ammunition Igloos	\$ 1,800	\$ 1,800
	Vehicle Maintenance Shop	(FY1981)	2,600
	Battalion Headquarters/ Classrooms	(FY1981)	1,050
	Barracks	(FY1981)	5,550
VARLOCS	Planning and Design	(31USC723)	34,500
VARLOCS	Purchase Indices Reduction	(NA)	-11,100
	SUBTOTAL	\$ 1,800	\$34,400
	<u>NAVY</u>		
MCAS El Toro, CA	Tactical Support Van Pad	2,000	2,000
NA Mombasa, Kenya	Dredging	(FY1981)	9,000
VARLOCS	Planning and Design	(31USC723)	26,000
VARLOCS	Purchase Indices Reduction	(NA)	-9,138
	SUBTOTAL	2,000	27,862
	<u>AIR FORCE</u>		
Classified	Support Facilities--TIADS	50,000	50,000
Cannon AFB, NM	Sound Suppressor Support Facilities	420	420
K.I. Sawyer AFB, MI	Sound Suppressor Support Facilities	540	540
Luke AFB, AZ	Sound Suppressor Support Facilities	440	440
Laughlin AFB, TX	Logistics Complex	4,700	4,700
Maxwell AFB, AL	Technical Library	(FY1981)	6,500
VARLOCS	Planning and Design	(31USC723)	76,500
VARLOCS	Purchase Indices Reduction	(NA)	-15,000
	SUBTOTAL	56,100	124,100
	<u>DEFENSE AGENCIES</u>		
VARLOCS	OSD Contingency Construction	(Prior)	15,000
Fort Meade, MD	Site Preparation for Relocatable Buildings	230	230
	COMFY LEVI	495	495
	Automatic Waste Collection		
	Utilities Enclosure	175	175
VARLOCS	Planning and Design	(31USC723)	14,000
	SUBTOTAL	900	29,900
	<u>GUARD AND RESERVES</u>		
Barnes Municipal Airport, MA	Avionics Weapons and Release System Shop	1,630	1,630
	Fuel Systems Maintenance Dock	1,270	1,270
	Composite Squadrons Operational Facilities	950	950
Enclosure 6			

	Munitions Maintenance and		
	Storage Facilities	650	650
Dobbins AFB, GA	Power Check Pad with Suppressor	500	500
Fort Wayne MAP, IN	Power Check Pad with Suppressor	500	500
Hulman Field, IN	Power Check Pad with Suppressor	500	500
Naval Air Station			
New Orleans, LA	Power Check Pad with Suppressor	500	500
	SUBTOTAL	6,500	6,500
	<u>FAMILY HOUSING</u>		
VARLOCS	Construction	(FY1981)	18,000
VARLOCS	Operations and Maintenance	16,022	117,600
VARLOCS	Pay Supplemental	(FY1981)	17,938
VARLOCS	Purchase Indices Reduction	(NA)	-24,000
	SUBTOTAL	16,022	129,538
	GRAND TOTAL	\$ 83,322	\$352,300

PREPARED STATEMENT OF PERRY J. FLIAKAS, DEPUTY ASSISTANT SECRETARY OF
DEFENSE (INSTALLATIONS AND HOUSING)

DEFENSE AGENCIES

April 7, 1981

Mr. Chairman and Members of the Committee:

It is a pleasure to appear before your Committee to present the Fiscal Year 1982 Defense Agencies Military Construction Authorization request. The Department of Defense request for authorization is \$326,100,000 for six Defense Agencies, the overseas dependents schools and for classified work by the Secretary of Defense. In addition, the FY 1981 supplemental requests \$0.9 million.

I would now like to discuss briefly the elements of this request.

The Defense Communications Agency requests \$900,000 for a single project in Vaihingen, (Stuttgart) Germany. This is needed to expand the present agency building at Patch Barracks to accommodate the new mission of managing the European Telephone System and to correct deficiencies in the shipping and receiving area where computer and telecommunications equipment spare parts are stored. Overcrowding has been a problem in the present facility since the mid-1970s when regional offices in Spain and the United Kingdom were centralized at Stuttgart.

The Defense Intelligence Agency request for \$72.5 million will provide for the final phase of a new Analysis Center for that Agency at Bolling Air Force Base, Washington, D.C. A contract was awarded on March 13, 1981, for

the first phase of this work which includes the option to complete the facility with this request. \$32.7 million was provided in FY 1981 for the first phase.

The Defense Logistics Agency request for \$71,554,000 will provide eighteen projects inside the United States and three projects outside the United States. The overseas projects total \$44,980,000. Those projects within the United States are to improve storage and distribution of DLA products and also includes several projects to upgrade safety and to reduce energy consumption. Overseas projects include a new property disposal office in Kaiserslautern, Germany, and fuel storage facilities at Wake Island and in Korea to support our Far East contingencies.

The Defense Mapping Agency is requesting \$10.8 million for building alterations and equipment relocation at the Aerospace Center in St. Louis. The project will expand the security and environmentally controlled areas to accommodate increasing workload and additional production equipment. The project will allow separation of heavy industrial print operations from sensitive photogrammetric, photographic and cartographic plotting equipment.

The Defense Nuclear Agency requests \$500,000 for a single specified minor construction project to upgrade insulation and to replace exterior siding and roofing on Radiobiology Research Institute buildings at the National Naval Medical Center in Bethesda, Maryland. This project will improve the environment under which sensitive specialized research projects are conducted.

The \$57.6 million requested by the National Security Agency includes \$55.1 million for a building addition at the headquarters, Fort Meade, Maryland, as part of a long-range program to accommodate increased mission requirements and consolidation of operations. NSA has exhausted all alternatives to this construction and will still continue to lease large amounts

of expensive operational space even after this project is completed. A second project for \$2.5 million will provide for the installation of fire protection equipment in the existing operations building at Fort Meade. In addition, the FY 1981 supplemental provides three minor construction projects for \$0.9 million.

Included in the request for the Office of the Secretary of Defense are three classified projects for \$14.1 million and \$64.2 million for eleven projects for Dependents Schools. Dependents schools were originally to be transferred to the Education Department this year, however, that decision has been deferred for further study.

The Department of Defense requests \$30.0 million for emergency construction. This is necessary to give the Secretary of Defense the capability to immediately respond to unforeseen situations which effect the security of the nation, or to fund other sensitive requirements which cannot wait for the normal budget cycle. The turbulence experienced over the past few years will no doubt continue as the Soviet bloc uses its third world allies to destabilize the existing order. The \$30.0 million is considered the minimum necessary for FY 1982 to provide facilities to respond to these situations.

For Unspecified Location Minor Construction the request provides \$4.0 million. This is for projects costing less than \$500,000 which historically arise during the year out of cycle with the budget and which are needed prior to the availability of subsequent year construction funds.

In conclusion, I would like to thank the Committee for your past understanding and support of the Defense Agencies Construction Program. With me today are members of my staff and representatives of the Defense Agencies. Together, we are available to respond to your questions.

Thank you.

**PREPARED STATEMENT OF PERRY J. FLIAKAS, DEPUTY ASSISTANT SECRETARY OF
DEFENSE (INSTALLATIONS AND HOUSING)**

FAMILY HOUSING PROGRAM

April 7, 1981

Mr. Chairman and Members of the Committee:

I am pleased to appear before this Committee to present the Department of Defense Military Family Housing Program and the Homeowners Assistance Program for Fiscal Year 1982.

In my overview statement on military construction, I stated that quality-of-life embraces a range of programs and individual projects designed to create an environment which recognizes that our Armed Forces personnel are our most important asset. The human dimension of military service is generally regarded as a highly pertinent variable in the recruitment, retention, discipline, morale, and readiness of military members. The adequacy and availability of family housing affect the individual's environment to a very high degree.

The fundamental basis for the Family Housing Program is the welfare of our military families. We are mindful of the positive influence adequate living conditions have on personnel and consider family housing an integral part of Department of Defense programs to improve the quality of military life. From this philosophy emerges our primary objective of the Family Housing Program, "to assure that all members of the Armed Forces with dependents have suitable housing in which to shelter their families."

The Department of Defense, as a matter of policy, relies on private sector housing for military families to the extent it is available near our installations. We seek to augment such community support where unfulfilled requirements cannot be accommodated by a combination of additional private sector construction and existing on-base housing assets. In this context, the Department of Defense Family Housing Program for FY 1982, approximately \$2.4 billion, is an essential aspect of the quality-of-life experienced by our military personnel. The program provides for construction of new units, leasing of private community housing, amortization of outstanding debt, and improving, operating, and maintaining approximately 400,000 units in the inventory in a manner which will efficiently and effectively use available resources in the most economical manner.

At this point, I would like to recount for you the unique features of the Family Housing Program that set it apart from other programs in the Department of Defense. Recognizing its importance and desiring to enhance as well as increase the visibility accorded, the Congress established the Family Housing Management Account. Part or all of sixteen different appropriations available to the Military Departments were combined. These sixteen accounts, reviewed in the past by various Congressional Subcommittees, had been used to finance various Defense family housing functions, rendering overall program management, review and control virtually impossible. The single account provided the vehicle for improved and more efficient, effective, and economical administration and coordination of the Department of Defense Family Housing Program. We strongly believe that this program has helped to provide the higher visibility desired, enhance management, and meet Department of Defense housing objectives.

Amounts made available for family housing total \$20 billion over the nineteen year life of the Account (1963 - 1981). Construction authority provided for approximately 101,000 units, roughly 26 percent of our present inventory, plus necessary resources to improve certain housing units to bring them to livability standards current at the time. Of the \$20 billion made available, some \$13.6 billion was to support operating and maintenance of the inventory. It is interesting to note that in 1963, excluding debt payment, construction accounted for 44 percent of the budget and O&M 56 percent. The FY 1982 program shows the most recent example of how program content has changed to reflect the size of our inventory and the resources needed just to stay in business; in FY 1982, construction accounts for 13 percent and O&M 87 percent. We believe that the Account continues to be an effective means of applying resources to this important, complex program in an orderly and reasoned manner.

A comparison of this year's proposed program with pertinent element breakouts for the previous two years is shown below. The level of construction reflects the need to continue the acquisition of new units to accommodate families where present and planned community support is unavailable, particularly for areas impacted by personnel increases associated with new missions and weapon systems. The post-acquisition construction pattern reflects the need to establish a level of effort to modernize existing on-base housing in view of the increasing age of the inventory, now at an average age of approximately 22 years. This pattern parallels the need to continue the maintenance of the inventory in acceptable condition. The trends also reflect the utility cost increases we are experiencing in the housing operations area.

FAMILY HOUSING DEFENSE
SUMMARY OF SELECTED PROGRAM AMOUNTS
(\$000)

	Actual FY 1980	Estimated FY 1981	Requested FY 1982
New Construction	-0-	143,541	168,785
(No. of units)	(-0-)	(2,651)	(2,117)
Post Acquisition Construction	1,000	93,321	109,819
Advance Planning and Design	-0-	4,500	9,100
Leasing	88,200	113,717	122,317
(Average occupied leases)	(16,922)	(18,055)	(18,258)
Debt Payment	156,978	151,856	150,103
Operation and Maintenance	1,459,399	1,671,647	1,827,264
(Operation)	(734,490)	(887,022)	(991,447)
(Maintenance)	(724,909)	(784,625)	(835,817)
Less: Resources Applied	- 16,400	- 22,500	- 20,500
Total Family Housing	1,689,187	2,156,082	2,366,888
Homeowners Assistance	1,000	-0-	2,000
Grand Total	1,690,187	2,156,082	2,368,888

In Fiscal Year 1982, the Department of Defense request for construction or acquisition of new family housing units will continue our efforts to reduce the buildable programmable deficit at installations where other methods of housing assistance, including the Variable Housing Allowance will not provide sufficient adequate housing to support military families. Significant progress has been made, with the support of this Committee, in reducing the deficit. With the advent of the Variable Housing Allowance, we are closely observing the impact on the deficit, including the affect it might have on the pay grade levels of the married members utilizing our housing inventory. For example, we might anticipate an increasing trend of senior married members choosing to reside in private housing for selected communities where adequate housing is now affordable under the Variable Housing Allowance system. As more junior enlisted families occupy our existing on-base housing, our deficit in certain areas might decrease. Accordingly, our need for additional on-base military construction considers only the areas where adequate housing is not available, irrespective of

cost. We also recognize that housing starts in the private sector do not meet the low and moderate income needs of this country. Based on these trends, we have initiated programming of one-bedroom housing units for lower pay grades and have proceeded with plans for assignment tests with a view towards expanding eligibility to all pay grades except for recruits and trainees.

For the Homeowners Assistance Program we are requesting appropriations of \$2,000,000 for Fiscal Year 1982. Normally the resources necessary to finance this program are derived from the sale of properties acquired by the Government. Since anticipated sales have not materialized because of the poor housing market, the amount requested is necessary to replenish the fund with resources to preclude the potential of funding shortfalls.

Now I will discuss briefly some of the aspects of the Family Housing Program which I believe are of particular interest and significance.

CONSTRUCTION

The family housing authorization request contains a new construction program of 2,117 units at 10 locations for a total of nearly \$169 million. This year's program, which contains 1,441 units for CONUS installations, 670 units overseas, and 6 units at a classified location, will accommodate the most urgent needs for new construction. The CONUS portion of the program will provide 500 units to relieve deficiencies in tight housing markets with insufficient housing support, and 941 units to assist families assigned to locations with additional homeporting of ships, new weapon systems, or new missions such as the National Training Center at Fort Irwin, California. These CONUS units are almost entirely in support of enlisted families in grades E-6 and below, with part of the Kings Bay project reflecting the introduction of programming for one-bedroom units and an assignment test to

support the lower enlisted grades, primarily grades E-3 and E-2. The overseas portion will accommodate families located in unsuitable housing at Incirlik Air Base, Turkey, and married members assigned to the Ground Launched Cruise Missile Facility at Greenham-Common, United Kingdom. Based on the availability of government-owned land in the United Kingdom, a current economic analysis for Greenham-Common supports new construction acquisition as being more economical than leasing. The Department of Defense also proposes legislation that does not require the acquisition of sole interest in housing in foreign areas. This will permit the Department to consider acquiring housing when foreign government-owned land is unavailable. Examples of creative approaches under this legislation might be acquisition of housing on land under long-term lease or cooperatives, when it proves to be in the best interests of the Government.

The FY 1982 Post Acquisition Construction Program provides \$110 million. The request includes \$45 million for energy conservation projects. These programs represent the minimum essential level of effort for modernization of the existing inventory and provision of energy efficient improvements to our housing units. Examples of our proposed efforts include insulation, storm windows, night setback thermostats, as well as the elimination of standing pilots on gas furnaces and the installation of flue dampers to reduce energy.

Within the total we are requesting \$5.8 million for minor construction. This amount is necessary to provide the flexibility at the lowest practicable level to accomplish replacement of fire damaged houses and perform minor improvements required to enhance habitability.

DOMESTIC AND FOREIGN LEASING PROGRAMS

The domestic and foreign leasing programs authorize the leasing of housing in the civilian community, under specific criteria and cost limitations, for assignment to military personnel as public quarters. These are supplements to our balanced effort to assure adequate housing for service members and their families.

The domestic leasing program of \$8.6 million proposed for FY 1982 reflects the phase down of this program for locations where the Variable Housing Allowance will allow members to obtain adequate housing in the community. We plan to continue the domestic leasing program through FY 1982 for particular requirements involving exceptional circumstances; for example, leasing for selected recruiters assigned to independent duty in high-cost urban areas where the Variable Housing Allowance is not as yet structured and funded properly to provide the necessary assistance.

The program provides for an expansion of the foreign leasing program for FY 1982 from the current limitation of 17,000 units to a new authorization level of 22,000 units. The Military Departments have a present need for 20,000 units comprising over 16,300 units that are currently executed and 3,700 additional leases on which they could proceed with advertisement and negotiations. Based on the projected housing requirements in Europe we believe it necessary to have a 10 percent flexibility to pursue agreements for an additional 2,000 lease units. This would provide the Department of Defense the flexibility to relieve critical housing deficiencies as opportunities are presented.

In addition, the program provides an increase in the number of exceptions permitted to the foreign leasing maximum cost from the current authorization of 150 units to 200 units. This is necessary if we are to continue

leases for Defense attaches, special representational positions and personnel on assignments impacted by extreme housing cost escalation. Housing cost escalation experienced in foreign areas has averaged 22 percent with some areas experiencing 100 percent inflation or greater. The requirements for these units have been reevaluated and determined to be essential to the performance of the United States mission in foreign areas.

OPERATION AND MAINTENANCE

For Fiscal Year 1982 the Department of Defense is requesting \$1.8 billion for the operation and maintenance of family housing excluding leasing and debt payment. This year we are continuing initiatives to enhance efforts to effectively manage Department of Defense housing assets. The Family Housing Management Account will bear all indirect family housing support costs to improve our ability to monitor and evaluate total family housing operation and maintenance costs. To accommodate this functional transfer, \$73.5 million for FY 1982 was shifted from other Service accounts to Family Housing during formulation of the FY 1982 budget. Accordingly, \$73.5 million of the increase in Family Housing from FY 1981 to FY 1982 is offset by a corresponding decrease in the Defense budget requests for these other accounts. Of the \$1.8 billion request, 46 percent is for maintenance and 54 percent for operations. The operations area is comprised of management, services, utilities, furnishings, and other miscellaneous items. The largest element within the operations area is utilities, which accounts for 69 percent of operations costs. Any significant deviation from utility cost estimates used to structure the budget can, as in the past, impact the program to the extent that funds must be reprogrammed from the maintenance account. It is not practical to cover shortfalls in utilities by reducing management, or other services. The increase in operation and maintenance

reflects the minimum essential increase necessary to maintain desirable living accommodations important for the support of our personnel and their families.

SUPPLEMENTAL REQUEST FOR FY 1981

A total of \$129,538,000 is required in supplemental appropriations for FY 1981; \$18,000,000 for construction and \$111,538,000 for operation and maintenance. However, since Congress appropriated \$53,138,000 less for construction than authorized for FY 1981, no new authorization for appropriation is required for construction. Appropriations provided for operation and maintenance were also less than that authorized, by \$95,516,000. Accordingly, the difference between the appropriations now needed for operation and maintenance of \$111,538,000, and the balance of unused authorization for appropriation of \$95,516,000, or \$16,022,000, represents the additional authorization for appropriation required for the FY 1981 operation and maintenance program areas. In addition and in order to restore flexibility for management of the program, relief from the 100 percent maintenance floor is urgently needed. The Appropriation Act of 1981, in effect, made the floor and the ceiling the same. This is unworkable and deprives the Department from taking management action to relieve specific conditions, such as unanticipated increases in utilities costs. We propose to transfer \$27.1 million from maintenance which together with the additional appropriation of \$111.5 million is required to cover the expected funding shortfall for operations. Severe adverse consequences are being experienced in the operations area, primarily due to the increased cost of purchased utilities (\$76.8 million impact) and the October 1980 pay raise (\$17.9 million impact). Funds which normally would have been allocated for the third and fourth quarters have

been moved forward to earlier quarters in order to maintain minimum essential operations and services. Additionally, the \$18,000,000 required for construction is necessary if we are to initiate new construction at Tinker Air Force Base, relocate surplus housing to Lajes Air Base, and proceed with authorized improvement and minor construction projects. Lack of the funds authorized by Congress and lack of relief from the maintenance "floor" would result in layoffs of personnel, cancellations of contracts, and overall general curtailment of housing support to military families with attendant adverse morale implications.

CONCLUSION

In conclusion, I am appreciative of this opportunity to appear today to present the Department of Defense Fiscal Year 1982 Military Family Housing Program. I have attempted to provide you with a broad outline of our continuing programs and new initiatives to achieve the Department of Defense objective of providing adequate family housing to the members of the Armed Forces. I would like to express my appreciation for the continuing support of this Committee. My staff and I are available to answer your questions, and would be pleased to provide such additional information as you might require. Thank you.

**PREPARED STATEMENT OF PERRY J. FLIAKAS, DEPUTY ASSISTANT SECRETARY OF
DEFENSE (INSTALLATIONS AND HOUSING)**

GUARD AND RESERVE COMPONENTS PROGRAM

April 7, 1981

Mr. Chairman, Members of the Committee:

It is a privilege to appear before this Committee and present the Department of Defense Guard and Reserve Forces Military Construction Program request. The Guard and Reserve Forces have assumed an increasingly important role in our National Defense over the past few years where they now constitute about 30 percent of our total force. They have taken on some current peacetime missions of the active forces such as the airlift support for Southern Command, and also have important roles in some of our highest priority wartime missions, including the Rapid Deployment Force. When you consider that we support this force with approximately 5 percent of the total Defense budget it becomes clearly evident that this is one of our better Defense investments. However, with increased reliance upon the Guard and Reserve, their need for adequate facilities has become even more important today than in the past.

Ten years ago, we realized that the facilities inventory of the Guard and Reserve built shortly after World War II was rapidly deteriorating. An identified backlog of construction requirements then totaled \$1.2 billion. At

Fiscal Year 1982 prices, that figure would be over \$3.0 billion. Our current backlog totals approximately \$2.4 billion. While this is still large, it compares with the active force backlogs and does indicate a reduction in real terms during this period of increased reliance on the Guard and Reserve.

The Department of Defense has established five goals for improved readiness this coming year. These are (1) to increase public support for the Guard and Reserve; (2) to increase strength of Selected Reserve units; (3) to insure an adequate supply of pretrained individual manpower; (4) to improve Ready Reserve training; and (5) to improve Ready Reserve resource management. We are working closely with the Guard and Reserve Component staffs to insure that our facilities programs support those goals.

The request includes \$203.0 million for FY 1982 and a \$6.5 million supplement for the Air National Guard in FY 1981. Considering inflation, this is consistent with past programs and should contain growth in the overall backlog. The request includes projects in 41 states, Puerto Rico and the Virgin Islands and is structured to support the goals mentioned earlier with emphasis on improvements in readiness and cost effectiveness. Approximately 30 percent of the request is in support of new missions, new equipment or equipment upgrades -- primarily those associated with aircraft. We have intensified efforts to promote joint-utilization of armories and reserve centers, particularly in the small communities where any one of the components is not likely to have a program large enough to fully utilize these facilities every weekend. This request contains ten such projects which will build or expand six facilities for joint use. We expect similar results in future programs as we are encouraged by new efforts being made by the Component staffs to work together on long-range planning and have noticed the influence of these efforts in the proceedings of the various State Guard and Reserve Forces Facilities Boards.

With this request, we are also seeking approval for legislative changes which will provide further opportunities for cost-effective construction or construction management and which will correct a situation we believe has unfairly required States to repeatedly modify their weapons storage security systems when the Federal government has changed its security standards.

The request also fully supports programs to improve safety, to abate pollution, and to conserve energy. These items are inherent features within regular projects.

The details of the request are as follows:

The Army National Guard requests \$41.5 million which includes 24 armory projects, including two jointly constructed with the Army Reserve, 13 vehicle storage and maintenance facilities, four flight facilities, and 18 general support and training site improvements. Projects are at 48 locations in 28 States and the Virgin Islands.

The Army Reserve requests \$30.4 million which will provide for the renovation and expansion of 11 reserve centers, construction of two new reserve centers, an equipment construction site, a range facilities project, two area vehicle maintenance facilities and three flight facilities. The projects are at 21 locations in 16 States. They include two joint projects with the Army National Guard and one joint project with the Naval Reserve.

The Naval and Marine Corps Reserves request \$23.9 million which includes six projects in support of aviation programs, one new reserve center, the expansion of three other reserve centers, and an energy conservation project. The projects are at eight locations in eight States. They include an addition to an Army Reserve Center for joint utilization with the Naval Reserve and to a Naval Reserve Center for joint utilization with the Marine Corps Reserve.

The Air National Guard requests \$78.7 million which includes 32 projects at 24 locations in 19 States and Puerto Rico. Approximately \$35.8 million is associated with new missions in support of new aircraft assignments. In addition the FY 1981 supplemental request includes \$4.5 million for bed-down of A-10A aircraft at Barnes Municipal Airport and \$2.0 million for sound suppressor support facilities.

The Air Force Reserve requests \$28.5 million which includes 21 projects at 14 locations in 13 States. Approximately \$18.0 million is associated with new missions to support new aircraft assignments.

The Guard and Reserve Components continued to do very well in executing approved programs. To date, they have initiated work on approximately 70 percent of the FY 1981 program and will have the major portions of the remaining work initiated by mid-summer.

Mr. Chairman, I wish to express the appreciation of the Department of Defense for the understanding and support of the Committee over the past years; and I solicit your approval of the Fiscal Year 1982 request. If you or the members of this Committee have questions regarding this program, I will be pleased to discuss them at this time. With me also are representatives of the Guard and Reserve who are available to discuss detailed aspects of their programs. They also have prepared statements.

Thank you.

PREPARED STATEMENT OF V. BLAISE BANDJUNIS, DIRECTOR, MILITARY CONSTRUCTION
AND SPECIAL PROGRAMS, OFFICE OF THE DEPUTY ASSISTANT SECRETARY OF
DEFENSE (INSTALLATIONS AND HOUSING)

GENERAL PROVISIONS

April 7, 1981

Mr. Chairman and Members of the Committee:

The general provisions for fiscal year 1982 related to the military construction program are contained in Titles VII and IX and are, except for a few exceptions, essentially the same as those contained in past years in each annual Military Construction Authorization Act. The purpose of these provisions is to facilitate execution of the authorization granted by the Congress and to establish certain limitations on the Military Departments so that they cannot exceed the cost or scope of projects or total authorizations justified to the Congress.

I would now like to briefly review each of the provisions and note any deviations or changes from the provisions contained in prior acts.

Section 701 is authorization language identical to section 601 in last year's Act (P.L. 96-418). It has the effect of continuing authorization to the

Secretary of each military department to develop installations and facilities under this Act free of the following limitations:

31 USC 529 which specifies the general prohibition against advances of public monies.

10 USC 4774 and 9774 which establish limitations upon construction of permanent structures, in the absence of other authorization, and

40 USC 255 which prohibits acquisition of land by purchase until a written opinion in favor of Title validity has been obtained.

The prohibitions specified in the first and third limitations cited above, if applied, would preclude timely construction in instances of military necessity. Section 701 grants exceptions to these limitations.

Section 702 is language which appears in each annual military construction Act and corresponds to the equivalent section in prior Acts, except the dollar amounts are changed to the amounts of authorizations contained in the titles of the Act and the addition of a separate title for NATO Infrastructure. It authorizes the appropriation of funds to carry out the functions authorized by separate titles of the Act.

Section 703 contains provisions which serve the dual purpose of providing a limited degree of flexibility to the Department of Defense and military services for exceeding the authorized cost of a project, when such increases could not reasonably have been anticipated, and also establishes specific

limits on the use of this flexibility to meet unforeseen circumstances.

Briefly, subsection (a) which is known as the title total limitation, restricts the total costs of all projects for the Military Departments in a given title to the total amount authorized to be appropriated for that title. Subsection (b) is identical to last years subsection and primarily authorizes the Secretary of the military department or Director of the defense agency concerned to increase the amount of authorization for bases inside the United States other than Hawaii and Alaska by 5% and for bases outside the United States or in Hawaii and Alaska by 10% provided that it is determined that such increase (1) is required for the sole purpose of meeting unusual variations in cost arising in connection with the project, and (2) could not have been reasonably anticipated at the time such project was submitted to the Congress. However, in subsection (c) when the authorization involves only one project at a named military installation, the amount may be increased up to 25%. Under Subsection (d), since the amount of the NATO request is not based upon specific project fund requirements but rather on the best estimate of what the U.S. obligation will be during the budget year, it is prudent to provide flexibility for necessary program adjustments. The cost variation will allow for Title increases of up to 25 percent (similar to a single project at an installation within the other titles) which will provide this flexibility. Subsection (e) further provides that when the amounts named for the Military Departments, Defense Agencies, or NATO must be exceeded by more than the percentages allowed in subsections (b) and (c), the Secretary or Director may proceed with construction by the Military Departments or Defense Agencies or the payment to NATO only after notifying the Committees on Armed Services and either 30 days has elapsed from date of such notification, or both Committees have indicated their approval. Subsection (f) imposes a further restriction that any project the cost of which

exceeds the statutory upper limit for minor construction projects may not be contracted for if the scope has been reduced by more than 25% or if the current estimate exceeds 25%, until a written notice of the facts concerning such project has been submitted to the Committees on Armed Services and either 30 days has elapsed or the Committees have both indicated their approval. Subsection (g) provides for annual reports to Congress on all projects awarded under subsections (e) and (f). Finally, subsection (h) authorizes the Secretary of Defense to increase any of the cost limitations in this or prior Military Construction Authorization Acts and increase the square footage limitation applicable to family housing in order to utilize solar heating and/or cooling equipment in a military construction project.

Section 704 is identical to section 604 in last year's Act. This section has the effect of directing that construction executed under this Act (1) be done by the Army Corps of Engineers or the Naval Facilities Engineering Command, or such other department or Government agency as the Secretary of Defense approves to assure efficient, expeditious and cost-effective accomplishment; (2) that the Secretaries of the military departments report annually to the President of the Senate and Speaker of the House of Representatives a breakdown of the dollar value of contracts completed by the construction agencies, together with the design, construction supervision, and overhead fees charged by such agencies; (3) that all contracts (except for architect and engineering contracts which, unless otherwise authorized, shall continue to be awarded in accordance with presently established procedures, customs and practice) be awarded insofar as practicable on a competitive basis to the lowest responsible bidder; and (4) the Secretaries of the military departments report annually to the President of the Senate and Speaker of the House of Representatives with respect to all con-

tracts awarded on other than a competitive basis to the lowest responsible bidder. Additionally it provides that the reports shall show the ten architect-engineer firms which in terms of total dollars were awarded the most business and a listing of the contracts for each firm.

Section 705 is similar to the repeal provision in last years' Act and continues in effect the previously established policy of repealing military construction authorizations that have not been used within a specified period after enactment. As a result, after October 1, 1982, only those authorizations, with certain exceptions, which are contained in Public Laws and enacted subsequent to October 10, 1980 would continue to remain available. Section 705 also exempts 27 projects from this repeal.

Section 706 corresponds to section 606 in last year's Act. This section prescribes the cost limitations for permanent barracks and unaccompanied officers quarters but increases these limitations to account for inflation.

This section would make the new cost limitations of \$53.00 per square foot for permanent barracks and \$57.00 per square foot for unaccompanied officer quarters retroactive to projects which have been previously authorized, but not contracted for as of the time of enactment. The previous cost limitations were \$52.00 and \$56.00, respectively.

Under this section, the cost limitations as stated in dollar amounts in the Act are applicable where the area construction cost index is 1.0. The cost limitations in areas where the area construction cost index is more or less than 1.0 will be computed and would be proportionately higher or lower.

For example, if the area construction cost index was 1.05, the cost limitation for permanent barracks would be \$55.65 per square foot.

Section 901 proposes to correct a conflict in law regarding the use of solar energy systems. The apparent conflict between 10 USC, section 2688 (including the modifications stipulated in section 804, P.L. 96-418) and section 116 of the FY 1981 Appropriations Act (P.L. 96-436) requires legislative resolution. The conflict exists because of differences in the definition of cost-effectiveness in the two acts. These differences are:

<u>10 USC 2688</u>	<u>Appropriation Act P.L. 96-436) Sec 116</u>	<u>Proposed Section 901</u>
1. 0% discount rate	7% discount rate;	7% discount rate;
2. Includes operating cost; excludes additional annual maintenance cost for solar systems:	Includes all capital and operating expenses;	Includes all capital and operating ex- penses;
3. Recover investment cost differential	Recover investment cost.	Recover invest- ment cost dif- ferential

The current conflict places the DoD in an intolerable position. The proposed revision to 10 USC 2688 is intended to eliminate this conflict in law.

Section 902 authorizes the use of planning funds for construction management of those projects funded by foreign governments directly or through international organizations for which U.S. forces are the sole or primary user.

The Governments of Japan and Korea have funded substantial construction programs in support of U.S. forces in their nations. The program in Japan alone has included 171 projects at a cost to the Government of Japan of \$395 million. U.S. forces do, however, provide the construction management services. The DoD designated construction agent is the U.S. Army Corps of Engineers. Funding for construction management is now provided by the Services to receive the project, from their O&M accounts. This procedure is inefficient for the following reasons: (1) it complicates accounting for actual U.S. costs associated with this program, (2) it perpetuates duplication of technical effort as well as diversion of Service resources from their responsibilities of maintenance and repair, (3) the "single year obligation authority" of O&M funds disrupts the continuity of design and construction management efforts, particularly when the U.S. and host nation fiscal years are not the same, and (4) it requires the DoD designated construction agent to negotiate on a case-by-case basis with the Service component for scarce O&M funds to apply to services rendered.

The NATO Infrastructure program provides construction for U.S. forces in Europe. The NATO Infrastructure program for the Army has increased from a yearly average of \$25 million or less through 1979 to a 1980 program of \$285 million and a 1981 program of \$318 million. USAREUR is responsible for functions required by NATO as the U.S. user of the projects. These functions include participation in the negotiations for real estate, preliminary site plan development and review, participation as the user representative in all

NATO design reviews, monitoring the construction program, NATO documentation submission, and acceptance inspections. The Army Corps of Engineers provide these services reimbursed by USAREUR. A separate line item in the FY 1981 OMA budget was cut by Congress. The House Appropriations Committee recommended that funds for this function be included in the Army's Military Construction budget. This proposal removes the burden of funding from USAREUR and places the funds in the military construction program as recommended by the House Appropriations Committee.

Section 903 proposes to amend Chapter 159 of title 10, United States Code to provide a construction authority in the event of a declaration of war or national emergency.

The Department of Defense has conducted major mobilization exercises in 1978 and again in 1980 which surfaced a need for authority to immediately restructure construction priorities. It is impossible to provide in advance for all conceivable emergency situations. This authority will not solve all conceivable problems either, but will optimize the situation. Situations could range from relocation of forces to meet geographical threats to continuity of efforts after a direct attack on the United States during which the Congress may be unable to convene.

Mr. Chairman, that completes my summarization of the general provision proposed in the FY 1982 Military Construction Authorization Bill.

Thank You

Mr. FLIAKAS. Mr. Chairman and members of the committee, I am pleased to have the opportunity to appear before your committee today to present the Department of Defense fiscal year 1982 military construction program and to discuss some of its details and other construction-related matters affecting the facility resources and needs of the Department of Defense. This program now reflects the amendment submitted on March 10, 1981. There are three major changes to the budget of the previous administration. The first of these is a reflection of a lower escalation rate than previously anticipated. The second assumes an anticipated savings to be achieved through revisions to current administrative practices under the Davis-Bacon and Services Control Acts. The third is an increase in the number of military construction projects and a concomitant increase in the total budget request.

FISCAL YEAR 1982 BUDGET REQUEST

The request for fiscal year 1982, \$8.1 billion for appropriations and \$7.0 billion in authorization, represents a carefully balanced approach to the acquisition of new facilities required by changes in weapons, advancing technologies, national security policy, or other factors, and our continuing effort to upgrade or replace much of the substantial inventory of aging and obsolescent facilities.

As with past-year programs, it has evolved through a series of careful, detailed reviews of each project proposed by the military services. In those reviews, the primary concern has been to assure that the project is not only essential to meet a valid and urgent military need, but also represents the most cost-effective feasible method for achieving the objectives. Careful attention has been given to the development of a balanced level of facilities support for important new programs and initiatives such as MX, Trident, the Indian Ocean/Persian Gulf access and deployment of other weapon systems, while continuing to meet essential needs of NATO and to maintain readiness in Europe, Korea, Japan, and other overseas areas.

We have also not neglected needed improvements for the quality of life for military personnel and their families, and defense commitments to high national priority requirements such as energy conservation and pollution abatement. The result is a carefully balanced DOD fiscal year 1982 construction program that will enhance the military posture and readiness of the Active Forces and their Guard and Reserve components.

FAMILY HOUSING

For fiscal year 1982 the Department of Defense military construction and family housing program request totals \$7,028,842,000 for authorization and \$8,147,088,000 for appropriations. The main differences between these amounts, about \$1.1 billion, are attributed to planning and design and defense access roads which will be funded under permanent codified authorizing legislation, funding of projects authorized in prior years, funding for debt principal retirement, prior year construction funding shortfalls, and projects previously requested for full authorization but with phased funding. A full reconciliation of these differences is provided in the appendix to this statement.

The last several years have been marked by a number of rapidly changing events that have impacted dramatically on the military construction program. Coupled with other dynamic factors influencing our programs, the Department of Defense found it necessary to submit periodic amendments and/or supplementals to current program budget requests. Some of these are facility requirements associated with the Panama Canal Treaty, the buildup in the Indian Ocean, force structure and weapon system deployments, fact-of-life adjustments necessitated by increased fuel costs, and unanticipated inflation. Accordingly, in addition to the normal submission of those years budget requests, we have had a fiscal year 1980 supplemental, a fiscal year 1981 amendment and supplemental and a revised program submission by the new administration. The Congress acted on some of these requests and chose on others to roll them in with consideration of the following year's program. I will try to summarize.

For fiscal year 1981, as amended, the Department of Defense requested appropriations in the amount of \$5,531,900,000 and \$112,110,000 as a supplement to the fiscal year 1980 program. Supplemental appropriations, mainly for planning and design, were approved in the amount of \$43,500,000. Actual appropriations enacted for fiscal year 1981 totaled \$5,224,700,000. Thus, the fiscal year 1982 appropriations request reflects an increase of some \$2.6 billion above the fiscal year 1981 amounts requested and \$2.9 billion more than the amounts enacted.

DIEGO GARCIA

With respect to the authorization requests for fiscal year 1981, as amended, the Department of Defense requested \$5,515,200,000 and \$23,500,000 as a supplement to the fiscal year 1980 program. The authorizing committees chose not to act separately on the supplemental request to accelerate construction on Diego Garcia and directed that Navy use its emergency construction authority for this purpose. Actual enactment totaled \$5,530,004,000. Thus, the fiscal year 1982 authorization request reflects an increase of some \$1.5 billion above the fiscal year 1981 amounts requested and enacted.

Also, with submission of the fiscal year 1982 program, additional appropriations are being requested for fiscal year 1981 for shortfalls in planning and design, construction, and for family housing in the total amount of \$352,300,000. Of this total, \$151 million is for planning and design. The components are experiencing an acute shortage of planning and design funds. The Department of Defense does advance planning and design and begins design of a construction project prior to the project being included in the annual military construction program.

This approach assures better project definition, more accurate cost estimates, and enables us to execute the project promptly, once the Congress authorizes and funds it. This concept of project development is authorized, in fact insisted upon, by the Congress. However, because of a number of reasons, DOD is currently in an underfunded position in the planning and design account. The shortfall is the result of the trade-off of fiscal year 1981 planning and design funds for Rapid Deployment Force construction; the reduction by the Congress of the

fiscal year 1980 supplemental request for planning and design; the late addition of facilities in Egypt in the construction program without commensurate design resources; and shortages caused by congressional construction project additions to the fiscal year 1981 request.

SPACE SHUTTLE

Further, some advanced developmental facilities such as the Space Transportation System (Space Shuttle) and the high energy laser have far exceeded estimated costs in the planning and design state. The balance of the supplemental request, excluding family housing, for the Active Forces and Guard and Reserves total \$107.0 million for construction and \$35.1 million for purchase indices reductions. For fiscal year 1981 shortfalls in family housing we are requesting \$129,538,000. This is comprised of \$18 million for construction projects authorized in fiscal year 1981 for which funds were not appropriated, \$17,938,000 to cover the cost of a 9.17-percent unbudgeted pay increase effective October 1, 1980, \$53,600,000 for operations as a result of congressional reductions, and \$40 million to augment essential maintenance of our sizeable inventory.

Specifically, the \$53.6 million for operations excludes a \$24 million savings consistent with the President's economic recovery plan which anticipates lower inflation rates from the previous inflation forecast.

While the program this year is one of the largest in recent years, we feel it is more reflective of the needs of the Department of Defense than has been the case in recent years. Due to a series of contributing factors, the DOD physical plant is in an accelerating state of decline and is a matter of great concern. Much of it is of World War II vintage which means that many facilities still in use are obsolete and have far exceeded their planned economic life.

A majority of our facilities are over 25 years old. Consequently, the physical plant has reached the stage where its various components are becoming obsolete faster than they are being replaced. This condition, coupled with inconsistent funding support during and since the Southeast Asia conflict has produced large facilities deficiencies in both construction and maintenance.

The inability to provide adequate facilities on a timely basis has many serious implications. Fundamentally, adequate operational and maintenance facilities are essential to equipment readiness and mission accomplishment. In a similar way, substandard training and quality of life facilities preclude optimum training, lower morale, and severely inhibit reenlistment efforts. Further, worker interest, initiative and productivity are reduced.

Over the past several years, a concerted effort has been made to reduce the DOD facility deficiency to a manageable level. However, anticipated gains have been offset by several factors, namely: continuing construction cost escalation; compliance with national programs such as energy conservation and pollution abatement; impact of new weapons system acquisition on budgetary resources; funding constraints, and the increasing need to replace or modernize aging, obsolete facilities. We believe that a balanced and representative military construction program is vital to support the force structure worldwide and to protect and replace the physical plant of our armed forces.

The following tabular summaries compare the authorization and appropriation requests for the Active Forces, Guard and Reserve Forces, the Defense agencies, NATO infrastructure, and the family housing program, for both fiscal years 1981 and 1982.

[The information follows:]

DEPARTMENT OF DEFENSE
[In millions of dollars, fiscal years]

	1980S request	1981A request	1980S enacted	1981 enacted	1981S request	1982A request
Appropriations:						
Army	4.0	911.1	1.0	857.8	34.4	1,099.7
Navy	42.5	763.6	21.5	775.3	27.9	1,477.8
Air Force	24.7	918.8	7.0	861.1	124.1	2,225.4
Defense agencies		235.7		245.6	29.9	354.1
NATO infrastructure		300.0		250.0		385.0
Guard/Reserve Forces		206.7		227.0	6.5	236.2
Family housing and homeowners assistance	40.9	2,196.0	14.0	2,007.9	¹ 129.5	2,368.9
Total	112.1	5,531.9	43.5	5,224.7	352.3	8,147.1
Authorization:						
Army		843.3		879.5	1.8	849.6
Navy	23.5	966.0		989.7	2.0	1,175.3
Air Force		737.7		716.2	56.1	1,680.9
Defense agencies		293.9		287.6	.9	326.1
NATO infrastructure		300.0		300.0		425.0
Guard/Reserve Force		178.3		200.0	6.5	203.0
Family housing and homeowners assistance		2,196.0		2,156.9	16.0	² 2,368.9
Total	23.5	5,515.2		5,530.0	83.3	7,028.8

¹ Includes \$17,900,000 requested in pay supplemental.

² Authorization for appropriations.

REPLACING OLD STRUCTURES

As mentioned earlier, the fiscal year 1982 program reflects a carefully structured mix of new requirements and a measured advance toward our goal of modernizing or replacing many of the older structures in the inventory. The division between these major categories is roughly 73 percent devoted to support of current missions and new requirements, and about 27 percent allocated to replacement and modernization. While we would prefer a greater emphasis on the replacement and modernization program in fiscal year 1982, we must consider many other competing priorities within the total matrix of requests.

Inflation in the construction industry continues to be one of our main concerns although it has recently risen less rapidly than the consumer price index. Our ability to predict construction costs 2 years in advance has been severely hampered by the combined effects of petroleum prices, fluctuations in interest rates, currencies, variable demand, and other factors which we cannot control or influence.

Fluctuations in the value of the dollar compared to foreign currencies also continue to have a large effect on our overseas program. In pricing the fiscal year 1982 projects, we have assumed that construction costs will rise 7.2 percent during fiscal year 1981 and 6.8 percent for fiscal year 1982. We believe that this will be sufficient to assure that the large majority of defense projects will be awarded within the requested appropriations.

TOTAL DEFICIENCY

The current total facility deficiency for the three military departments, the Guard and Reserve, and defense agencies is projected at \$60.5 billion including \$18.4 billion for the Air Force MX missile program. The total deficiency of the three active military departments alone (exclusive of the MX program) is \$38.7 billion of which \$17.4 billion represents replacement and modernization projects required to eliminate inadequate and overage facilities. Future progress in overcoming this substantial deficit will continue to depend primarily on two factors: an abatement in construction cost inflation and future increases in the amount of military construction budgets.

Within the total requested program of some \$8.1 billion, about \$3.1 billion are allocated to construction within the United States, \$0.6 billion to general support activities, and about \$2.0 billion to overseas construction. The overseas total includes \$425 million as our cost share contribution to NATO infrastructure. However, we are asking for only \$385 million in appropriations with the remainder to be made up by recoupments. The balance, \$2.4 billion, represents the military family housing resources necessary for construction, operations and maintenance, leasing, and similar activities for support of family housing worldwide.

For the information of the committee and to provide further amplification of the various parts of our program, there are attached to my statement six enclosures. First is a reconciliation of new authorization to appropriations. Second is a summary of the proposed authorization programs by the major facility categories. Third is a more detailed description of the construction within the various facility categories. Fourth is a summary of the family housing authorization for appropriations. In the fifth are our responses to a number of questions and requests for reports contained in the Authorization Committee reports on the fiscal year 1981 program. Other responses containing more detail, have already been or will be forwarded to the committee separately. In the sixth and last enclosure is a more detailed summary of the fiscal year 1981 supplemental request.

Now I would like to address several important segments of this year's request which in the past have been a matter of interest to the Congress, and which we consider to be essential elements affecting our total program. The first of these is...

EXECUTION OF MILITARY CONSTRUCTION

The Department of Defense emphasizes the execution of the military construction program in the year for which funds are appropriated. It is our judgment that management of the military construction program by the services has been good during fiscal year 1980. This judgment is based on performance.

We have established an overall service performance execution rate of 90 percent of the program, excluding projects canceled or delayed beyond service control. Performance for the last fiscal year was 1 percent short of our goal, caused in part by the late, November 30, 1979, enactment of the fiscal year 1980 military construction bills. Nevertheless, fiscal year 1980 performance of 80 percent compares favorably with the

performance execution figures of 90 percent in fiscal years 1979 and 1978, 89 percent in fiscal year 1977, and 77 percent in fiscal year 1976.

In addition to the year end goal, we have established intermediate goals to encourage award of the program in the early quarters of the fiscal year. This is essential in a period of high inflation because delay in "hitting the street early" means increased costs. And, of course, early awards enable us to furnish required facilities to the user in a more timely and responsive manner.

Another indicator leading to our judgment that management of the military construction by the services in fiscal year 1980 has been good is our analysis of service efforts to control cost growth. Of those projects executed, there were only 51 projects which exceeded the program authorization by more than 25 percent, and thereby required cost variation approval by the Congress.

This compares with 46 such projects in fiscal year 1979. Our analysis of the above mentioned 51 projects shows that unanticipated inflation was the primary factor for cost growth in these projects.

By way of background, may I remind you that we foresaw the extraordinary cost growth in military construction and you were so advised. On that account the Congress directed the use of cost variation procedures to assure award.

Competition on military construction has improved slightly in 1980. We now experience an average of 6.1 bidders for each bid package, whereas in 1979 that figure was 5.7.

The fiscal year 1982 military construction budget reflects an anticipated savings of \$70 million to be achieved through revisions to current administrative practices under the Davis-Bacon and Services Control Acts.

PROGRAM SHORTFALLS

Program shortfall deserves special comment. Prior to 1979, the overall ratio of program current working estimate to program authorization was in the mid-80 percent range. This allowed program flexibility to pay contractor claims and to absorb cost growth. For the last 2 years, this ratio has been close to 100 percent, thus eliminating flexibility. Foreign currency exchange losses, unanticipated inflation rates and other factors have all contributed to a serious funding shortfall of \$387.2 million which could result in cancellation or deferral of a number of valuable approved projects and impair our ability to carry out future military constructions programs.

The \$387.2 million total shortfall consists of Army, \$38.9 million; Navy, \$105.8 million; and Air Force, \$242.5 million. The single greatest factor in this shortfall was the cost growth in the space transportation system project. The STS program amount was \$118 million, and the current working estimate is \$201 million. The fiscal year 1982 budget includes \$387.2 million to fund the military construction shortfall and I urgently commend your attention and support to the correction of this longstanding problem.

This year the DOD requests \$483.7 million under the continuing authorization of 31 United States Code 723 for advance planning and design funds for the active forces and defense agencies and \$16.9 million for the Guard and Reserve components under 10 United States

Code 2233. This is significantly larger than the \$336.6 million requested last year. However, \$156 million of the total is for planning and design of the Air Force's MX program. The remaining \$344.6 million is just to cover inflation and anticipated significantly larger future years' construction programs of over \$8 billion per year.

I might mention that we have critically examined the planning and design program to assure that these large amounts can be handled efficiently and have met with the military departments to plan necessary management actions.

The military departments are continuing to make progress toward the DOD goal of having all projects at least at the 35-percent stage of design when presented to the committee for authorization and appropriation. We realize that we must strive to attain this objective in order to be able to obligate the construction programs in the budget year and I can assure you that we intend to come very close, if not completely attain our goal.

CONSTRUCTION IN EUROPE

Construction in Europe continues to command a major portion of our total construction request. I will cover this in more detail in my separate statement on construction in Europe and NATO infrastructure, but I would like to say here that the Department of Defense continues to make significant progress in addressing the concerns of the Congress in this very important area, with particular emphasis on management initiatives and innovations. For fiscal year 1982, some \$1.125 billion in authorization and \$1.094 billion in appropriation are required to support the operational objectives of the United States and major NATO commanders.

Included is \$425 million in authorization and \$385 million in appropriation for the U.S. contribution to the NATO infrastructure program. The difference, \$40 million, will be provided through recoupment of funds from previously prefinanced projects. This represents a substantial increase over the \$300 million authorized and \$250 million appropriated in fiscal year 1981 and reflects the proportionate share it is estimated that the United States will incur in fiscal year 1982 against the approximately \$2.8 billion infrastructure program backlog.

A significant factor which was considered in developing this year's request is the improved rate at which the host nations are approving large infrastructure projects. This accelerated rate has caused a concomitant increase in requirements for the United States to pay its share of such projects. As you know, the U.S. contribution to this common funded program is 27.42 percent.

In addition to the infrastructure line item, the total request includes U.S. unilaterally funded military construction projects in Europe in the amount of \$363 million in authorization and \$373 million in appropriation for the Army, and authorization and appropriation requests of \$35 million for the Navy, \$258 million for the Air Force, and \$44 million for the Defense agencies. There is one prefinanced project in this request.

The Air Force is requesting \$24 million for mission essential facilities at collocated operating bases. These projects are eligible for

NATO funding, but with the small amount of funds remaining in this slice group, construction of these important projects could not be expected until sometime beyond 1985. As I have indicated in prior years' testimony, we will limit the practice of prefinancing to very selected projects and only when absolutely required to meet operational commitments. The military construction requests for the services and Defense agencies include such items as personnel and logistic support facilities for the Patriot and ground-launched cruise missile systems, dependents schools, training facilities, and other projects that are not eligible for NATO funding.

INDIAN OCEAN/PERSIAN GULF

As noted last year, our national interests are inextricably tied to the Indian Ocean/Persian Gulf region of the world. Because of congressional and DOD concern, comprehensive reviews of the strategic and tactical concepts required in this volatile area have been conducted by the Joint Chiefs of Staff. The reviews defined our overall planning and policy objectives which have now been incorporated into a multi-year construction plan. As required, a copy of this plan has been forwarded to your committee. The plan requires extensive construction of facilities in various countries throughout the region in order to support the Rapid Deployment Force concept and to improve the operational readiness of our forces in the area.

In fiscal year 1981, \$236.9 million was provided including a special contingency fund of \$105 million for Indian Ocean/Persian Gulf construction which has been applied to projects in Oman, Kenya, and Somalia. The \$472.6 million requested in this budget provides for additional construction in these countries but also includes needs in Diego Garcia and Egypt. Appreciating the almost complete lack of supporting facilities in the region and the necessity to provide on-line facilities as quickly as possible, the Department developed a construction policy which provides for preference to U.S. firms in order to insure a dependable, technically proficient and responsible regional construction capability. The required dredging program for the area will be accomplished in accordance with Public Law 96-436 which provides U.S. contractors with a beneficial 20-percent bid factor. The U.S. Army Corps of Engineers and the Naval Facilities Engineering Command, as the DOD construction agents in the area, have been instructed to take all necessary actions to execute and carry out this military construction program in an expeditious manner. We have a high degree of confidence that the construction program for the Indian Ocean/Persian Gulf has been carefully planned and programmed to provide needed facilities and will be constructed in a manner responsive to the support needs of our operational forces and to our national interests.

PACIFIC AREA

In recent years, construction in the Pacific has been assigned a somewhat low priority in deference to the need to address urgent facilities requirements in Europe and the Indian Ocean/Persian Gulf areas. However, while those areas continue to receive major consideration,

the fiscal year 1982 construction requirements in the Pacific total approximately \$425.1 million and therefore represent a significant element of the total program.

As might be expected, the greatest emphasis has centered in Korea for which \$149.4 million has been requested. Of this amount \$62.3 million has been programed for the Army to continue efforts begun last year to undertake extensive construction in light of the announced reassessment of the 2d Division withdrawal. Similarly, the remaining \$51.3 million has been programed by the Air Force in an effort to enhance its operational capabilities in that area. The Defense Logistics Agency has programed \$29.0 million to construct POL tankage, and two dependent school projects for \$6.8 million are programed in Korea. This effort is also reflected in Air Force requests for facilities in Japan where \$18.7 million has been programed in addition to some Army and Navy requirements. Two dependent schools are also included in Japan for \$9.5 million.

Construction is also being requested in the Republic of the Philippines. Last year we were able to proceed with some essential Air Force new construction following the completion of negotiations for a base rights agreement involving Clark Air Force Base. In the fiscal year 1982 request, we are continuing this effort with Navy and Air Force facilities at Subic Bay, Cubi Point, and at Clark Air Force Base totaling some \$29.1 million.

The balance of the requirements in the Pacific are located in Hawaii, \$92 million; Alaska, \$70.9 million; the Marianas, \$32.2 million; Wake Island, \$14.5 million; Kwajalein, \$3.2 million; and New Zealand, \$1.2 million. In this instance, we have included Alaska because of its vital role in Pacific operations. Highlighted are the minimally attended radar facilities in Alaska, and the acquisition of the leasehold interest in 18,200 acres of land originally agreed to in 1975 as part of the covenant to establish the Commonwealth of the Northern Marianas Islands. Other projects are operational, training, environmental, and quality of life facilities for our forces in these areas.

QUALITY OF LIFE

Quality of life embraces a range of programs and individual projects designed to create an environment which recognizes that our Armed Forces personnel are our most important asset. The human dimension of military service—the job, living, and recreational conditions of service life—is generally regarded as a highly pertinent variable in the recruitment, retention, discipline, morale, and readiness of military members.

Satisfactory and serviceable facilities are, of course, a requisite to adequate working conditions, housing, medical care, educational, religious, recreational and other programs necessary to support the military community. Quality of life programs—to include military construction—have not always competed well for resources. The Department of Defense fiscal year 1982 military construction program addresses some of the shortfalls of prior years by recognizing that improved morale and retention of skilled personnel in the Armed Forces depends upon relatively more attention to quality of life issues.

The fiscal year 1982 military construction authorization program contains \$185.8 million for 64 community facility projects. The current All Volunteer Force includes 54.4 percent which are married personnel. There are over 1.6 million dependent children of these military families. Frequent reassignments, unaccompanied tours, long periods of sea duty, irregular working hours and training exercises, deteriorating purchasing power, and a significant number of working spouses have all combined to necessitate more and better family services, child care, and youth activity programs.

The fiscal year 1982 military construction program includes among other items 10 family service or community centers and 8 child care centers to address these needs. The fiscal year 1982 military construction appropriation program includes \$9.8 million for four projects which were previously authorized.

Gymnasiums and other sports and physical fitness facilities are required not only for recreational purposes, but are an integral part of the DOD physical fitness readiness program. Fifteen of these facilities have been included in the fiscal year 1982 military construction program.

For too long we have neglected our overseas facilities and those Navy shore installations in the United States directly supporting our fleet personnel and their families. While it is extremely difficult to establish priorities on a worldwide basis, we have tried to establish a balance between military construction projects in the United States and those in foreign countries. We expect that military construction programs in future years will likewise be oriented toward meeting overseas needs as well as selected Navy shore installations and small remote sites within the United States, where quality of life deficiencies are known to currently exist.

EXPANDING/REBUILDING SCHOOLS

The Department of Education Organization Act, Public Law 96-88, included provision for the transfer of the Department of Defense Office of Dependents Schools to the Education Department prior to May 1983.

A plan was developed which contemplated effecting this transfer by the beginning of fiscal year 1982. However, during the review of the budget, then-President Carter made the decision to delay the proposed transfer in order to give the new administration the opportunity to review the proposal. Accordingly, the military construction and design for continued operation under the Department of Defense are included in this request for \$64.2 million. This will provide 11 projects to expand or rebuild schools for overseas dependents.

In summary, the fiscal year 1982 community facility construction in the continental United States contains 29 projects at \$58,750,000; and 35 projects in eight foreign countries for \$127,070,000.

The roughly \$2.4 billion family housing program proposed for fiscal year 1982 is an essential aspect of the quality of life experienced by our military personnel. Failure of this program adversely affects retention of the key personnel we need to accomplish essential missions. The fiscal year 1982 program includes the construction or acquisition

of 2,117 new units at a cost of \$168.8 million, in support of new missions or families assigned to installations in tight housing markets. 676 of the units are in overseas areas where economic analyses indicate it is more cost effective to build or acquire vice lease. Although our operating and maintenance costs have increased, the expenses anticipated are necessary if we are to maintain desirable surroundings important for the support of our personnel.

I will discuss the program in more depth in later testimony, but would like to stress at this point that the program before you is considered the minimum essential required.

The fiscal year 1982 unaccompanied personnel housing construction program amounts to \$395.4 million compared with \$227.3 million for fiscal year 1981, an increase of \$168.1 million. The proposed program for modernization and new construction will provide 25,640 adequate spaces, including 14,373 spaces for CONUS installations and 11,087 spaces in overseas area. The CONUS portion contains housing only for grades E-6 and below, which conforms to the recent policy change that permits personnel in pay grades E-7 and above to live off-base. Examples of the CONUS housing support include new construction for personnel assigned to the new National Training Center for the Army at Fort Irwin, Calif., and personnel located at the Naval Submarine Support Base at Kings Bay, Ga.

The overseas portion supports essentially unaccompanied junior enlisted personnel assigned to critical housing locations in the European countries, Korea, and the Republic of the Philippines. The majority of the construction in Europe will support force modernization initiatives in Germany, continue the upgrade of isolated sites in Turkey and reduce housing deficits in the United Kingdom.

Unaccompanied housing for Korea will relieve current unsuitable conditions for personnel occupying temporary and antiquated quonset huts. With Congress' support, we are continuing our efforts to reduce the deficiency of approximately 300,000 unaccompanied personnel housing spaces currently reported by the military services.

MODERN MEDICAL CARE

The fiscal year 1982 budget includes \$146.5 million of authorization and \$435.3 million funding for medical facility construction. This request reflects the vital need to make significant headway against the \$2.6 billion backlog of deficient medical facilities. Much of the current inventory of DOD medical facilities was built 25 to 50 years ago, and is today, functionally and physically inadequate to meet the needs of modern medical care. Included in this year's program are major projects at Fort Carson, Colo., for a replacement hospital, \$81.0 million; Frankfurt, West Germany, for hospital alterations, \$33 million; San Diego, Calif., for a replacement hospital for the Navy Regional Medical Center, \$204 million; Wright-Patterson Air Force Base, Ohio, \$102.3 million for major additions/alterations; Travis Air Force Base, Calif., upgrading life safety and supporting functions, \$3.8 million; Sheppard Air Force Base, Tex., \$4.0 million for alterations to the existing hospital; and Annapolis, Md., for a medical clinic modernization, \$3.0 million.

The outyears of the DOD 5-year program are planned to continue addressing major deficiencies worldwide. This will include construction of new and modernization of existing hospitals to meet changing support requirements, medical missions, life and electrical safety compliance, and needed troop medical/dental clinics at a variety of installations.

ENERGY CONSERVATION PROGRAM

This is the seventh year of the energy conservation investment program, a progressive program to reduce energy consumption in all of our existing buildings and utilities systems. The program is designed to accomplish cost effective retrofit work in older facilities to lower energy-use levels and to achieve significant savings in utility costs.

As a result of the requested Defense Audit Service review of the first 3 years of the program, we have issued more detailed guidance to the military departments to strengthen the program and eliminate identified problems. Last year we instituted an annual report of actual ECIP project construction and energy savings and are using the information from this report to further improve the management of the program and optimize results.

We have found that with regard to life-cycle costing, prioritization for funding of projects on the basis of dollar savings only, without regard to energy savings, does not produce the necessary reductions in energy consumption. Accordingly, we shifted the program emphasis to energy conservation by establishing priorities based on energy savings per \$1,000 of investment. Under this criterion, the maximum energy saving projects are accomplished first. In order to assure a cost-effective program we require all ECIP projects to have a benefit-to-cost ratio greater than one. We believe, with a criterion based on energy savings rather than dollar savings alone, we can achieve a 12-percent energy reduction from ECIP by 1985 as part of the 20 percent required by Executive Order 12003. An additional 4-percent reduction will be attained by programmed O. & M.-funded conservation measures including improved maintenance and operating procedures. This effort will include additional operator training, instrumentation calibration and cleaning and tuning of utility systems. Improved administrative practices, voluntary personnel action and replacement of old equipment—for example boilers—will be emphasized to achieve the final 4 percent.

In order to achieve a 20-percent decrease in energy use in existing facilities by 1985, we extended the energy conservation investment program to fiscal year 1984 at a total cost of about \$1.5 billion. We believe this total program cost estimate is valid. In the past 6 years Congress has authorized and appropriated \$869 million for this work. This year, an authorization of \$223.1 million and an appropriation of \$223.7 million—including \$44.9 million for family housing—are requested for this important program. As retrofit solutions continue to become more complex, we expect requirements to increase to a peak of about \$275 million by fiscal year 1983. The average amortization period to date is about 5 years and the fiscal year 1982 program payback is estimated at less than 5 years. The resultant energy cost avoidance is estimated to be over \$200 million in fiscal year 1982. We con-

tinue to give high priority to the energy conservation effort not only to achieve compliance with administrative and congressional directives but also decreased dependence on fossil fuels produces improved facility readiness and avoidance of facilities operation costs.

AIR AND WATER POLLUTION

The DOD is continuing to make a major effort to identify and correct air and water pollution problems while attempting to fully comply with the many State, regional, and local requirements. The fiscal year 1982 request contains \$8.6 million for air pollution abatement and \$46.6 million for water pollution abatement.

In the past 13 years, funding from all sources for pollution abatement has exceeded \$2.6 billion. We believe good progress has been made in improving the environmental quality not only for personnel on military installations but also for their neighbors. One of our principal objectives has been to achieve cost effective and timely abatement solutions. As I have stated before to this committee, the program has been difficult at times and continues to have problems. One of the primary reasons is that the many changes and modifications to abatement regulations have made it difficult to focus on a solution in many cases. There have been technical problems in some areas, especially in the proper treatment of industrial waste. The proper disposal of explosives and ammunition is the principal remaining problem in the area of air pollution abatement. We have several projects of this type in the fiscal year 1982 program.

During last year, as the result of GAO direction that EPA should fund Federal agencies' portions of all regional waste water treatment facilities, we deferred programing of some projects. In the light of OMB's counter direction that Federal agencies should fund their appropriate portion of these regional facilities, we have programed such a project at Seymour-Johnson Air Force Base in the fiscal year 1982 program. Other similar projects are waiting for local municipality initiatives.

You will note that our fiscal year 1982 request is lower than last year. This is primarily due to the fact that we are completing the majority of the earlier regulatory requirements. But we are unable to accurately predict the end of the pollution abatement effort. It is probable that it will continue into fiscal year 1984, primarily to accommodate the new requirements for best available waste water treatment, oil spill prevention and hazardous wastes and unique explosives disposal. Hazardous waste disposal is one of the least defined areas of future requirements needs. Surveys are currently underway to define the construction necessary to comply with recent amendments to the Resources Conservation and Recovery Act.

DEFENSE INTELLIGENCE AGENCY

The Military Construction Authorization Act of 1981 (Public Law 96-418) approved authorization for construction of a Defense Intelligence Agency facility at Bolling Air Force Base. However, section 406 of that act required that no funds be obligated or expended until the Secretary of Defense conducted a study to examine alternatives to con-

struction at Bolling Air Force Base and submitted the study results and his decision regarding the location and scope of the facility to the appropriate committees. A waiting period of 30 days after submitting this report prior to obligating funds was required by the Congress.

The subject report and the Secretary's decision to proceed at Bolling Air Force Base was delivered to the committee on November 24, 1980. The 30-day waiting period expired December 23, 1980. Bids were received February 18, 1981. The low bid was within the Government estimate and the contract has been awarded. The fiscal year 1981 legislation partially authorized and funded this much needed facility. The additional authorization and funding required is critical in fiscal year 1982 in order that the construction contract can continue uninterrupted and that vital photographic processing and electronic equipment can be moved into the facility in November 1983.

This will bring to an end the risks imposed by leases that are running out and deteriorating environmental conditions in temporary facilities. This schedule will also permit the remainder of the agency to begin occupancy in April 1984 and become fully operational in October 1984.

Included in the program is a total of \$366 million for MX facilities, including the next phase of the Vandenberg test facilities, \$12.9 million; the first increment of land acquisition funding, \$9.5 million; an MX headquarters facility at Norton Air Force Base, \$11 million; and the first increment of MX operational support facilities, \$332.6 million. The operational support facilities funding provides for the site development, contractor mobilization, operational base test site construction, and purchase of selected long-lead materials. Roads, railroads, utilities, shops, warehouses, administrative facilities, and construction camps will be provided with this funding. With respect to the environmental impact process, the draft environmental impact analysis was released for public comment in December 1980, and we anticipate that the final environmental impact statement will be completed in mid-1981.

The Congress, last year, expressed an interest in the management of this program. We are developing a memorandum of understanding between the Army, Air Force and the Office of the Secretary of Defense and will shortly have in being a combined working group which will provide surveillance over the program management. These details of the construction management plan, addressed by the Congress last year are contained in the environmental impact documents. Coordination with all other Government agencies, professional groups, trade associations, labor groups and elements of industry which will be involved with or impacted by this program will be accomplished by DOD agencies.

TRIDENT SUBMARINE

The military construction program, in support of the west coast Trident weapons system, is being well executed. Of the \$554.6 million program appropriated for construction through fiscal year 1981, 92 percent is complete with an additional 5 percent scheduled to be completed by the end of fiscal year 1981. All of the facilities approved through fiscal year 1980 are either completed or underway and all

projects in the fiscal year 1981 program are scheduled to be awarded during the fiscal year. The first Trident submarine is expected to arrive at SUBASE Bangor late in 1982. All facilities to support this boat will be completed in advance of this date. Remaining Trident facilities construction is programed through fiscal year 1984 to support the follow-on submarines and the Navy has requested \$23.1 million in the fiscal year 1982 budget for continuation of this construction at SUBASE Bangor.

The fiscal year 1982 budget also includes \$77.8 million as the initial increment of construction for the Atlantic Coast Trident program at Kings Bay, Ga. \$12.7 million of this is for 165 units of family housing. Of the remaining \$65.1 million, over 87 percent is for utilities and site improvements but also includes facilities to support the initial personnel buildup for the Trident program. This request is the first phase of a carefully planned program through 1988 to provide the support facilities for an initial operational capability by October 1989.

The east coast basing of the Trident submarine was a separate decision from the site selection made in January 1978 for the relocation of the Rota Poseidon Squadron. The Secretary of the Navy, on May 24, 1979, announced that Kings Bay, Ga., was selected as the preferred alternative location for the possible construction of an Atlantic coast strategic submarine base. This selection initiated a formal process leading to the final selection and approval for construction.

The final supplement to the Environmental Impact Statement was filed with the Environmental Protection Agency and distributed to the public on September 11, 1980. Based upon the findings, the final site selection of Kings Bay, Ga., as the Atlantic coast strategic submarine base was announced by the Secretary of the Navy on October 23, 1980.

MX BASING MODE

I would like to depart from my prepared text with respect to the MX system. The Secretary of Defense has directed that pending the completion of the study which the President and he directed and formed a blue ribbon panel to review the MX basing mode, that we have been directed to proceed with all necessary design and planning costs that impact on the ultimate IOC date, the operational date. So we are going on what we might call a double-track basis.

We are proceeding with the design and planning but we have not actually spent any construction funds. The first construction year is 1982 and there are some \$366 million for construction in the 1982 program.

Senator THURMOND. This is the system to be built, and I guess we have to hold everything in abeyance.

Mr. FLIAKAS. The Secretary has directed that the development of the missile itself, of course, proceed, and we are supporting that with necessary construction at Vandenberg. What I mentioned was that we are in our 1981 program and we do have planning and design money that we are using to continue on the current basing mode so as not to impact or delay the ultimate deployment date. So we are on a double-track system and the President has directed that and the Secretary has implemented it with direction to me.

Now, these are minor funds that are being used only for planning and design.

Senator THURMOND. Only for planning and design?

Mr. FLIAKAS. That is correct; the first construction is programed in 1982, and, of course, we have time. The blue ribbon panel is going to report out in the early summer, by June, after which a decision will be made on the basing mode.

Senator THURMOND. Thank you.

GUARD AND RESERVE COMPONENTS

Mr. FLIAKAS. I would like, sir, now to turn to page 25 and briefly mention the Guard and Reserve components. The 1982 authorization request of the Army, Navy, Marine Corps, and Air Force is \$203 million and the appropriation request is \$236,200,000. The fiscal year 1982 program includes projects in 41 States, Puerto Rico, and the Virgin Islands. It represents an increase of \$3 million over that authorized for fiscal year 1981. But when inflation is considered, the DOD request for fiscal year 1982 is approximately the same level of effort as in previous years.

Approximately 30 percent of the request is in support of new mission requirements or new equipment assignments as the Guard and Reserve continue to modernize and take on added responsibilities within the total force. The balance of the program is to replace, renovate, or expand inadequate facilities that hamper readiness objectives or that fail to meet minimum health, safety, environmental, or energy conservation standards.

The program, as proposed, represents the current priorities of the Guard and Reserve components. Each project has been analyzed to insure that it is located where there has been a demonstrated capability to support the various Guard and Reserve programs, and planned in the most cost-effective manner.

During the past 2 years, we have been urging the Guard and Reserve components to aggressively pursue cost-saving joint-construction projects. In this request, there are 10 projects which will build or expand 6 facilities for joint use.

We will have a separate statement on this vital portion of the Defense program for the separate hearings you have scheduled.

With reference to base realignments, we have discussed this several times with you in the past. Knowing the Congress interest in actions affecting Department of Defense installations, I would like to say at the outset that at this time we are not preparing any new base realignments or closure package. However, this does not rule out the possibility of a package being developed later this year after the new administration has formalized its budget projections for future years. With regard to our actions on the previously announced proposals, these are continuing.

To summarize, in March 1979 the military departments and defense agencies announced a number of base realignment decisions and preferred alternatives affecting 157 installations and activities in the United States which, when implemented, would reduce Defense costs by more than \$264 million and eliminate 9,700 military and 5,600 civilian personnel positions throughout the Department of Defense.

Subsequently, the status quo was announced for a number of proposals and several were revised or held in abeyance as a result of changed conditions.

To date actions have been implemented which will result in estimated annual savings of \$128 million and reduction of 4,600 military and 3,000 civilian positions. Nine studies which are still underway could result in additional estimated annual savings of about \$100 million and elimination of approximately 2,900 military and 3,400 civilian positions. We expect decisions on most of these actions to be announced within the next several months.

In conclusion, I am appreciative of this opportunity to appear before you today to present the Department of Defense fiscal year 1982 military construction program, and to discuss subjects in the construction, housing, and installations areas which are of interest to your committee. This is a very vital part of the overall Defense program budget. I have attempted to provide you with a comprehensive outline of our continuing efforts to achieve a strong base structure which will measurably contribute to the readiness of the total force. We express our appreciation for the understanding and support of this committee which has been so helpful in past years.

I have with me various members of my staff and together we will be available to answer any questions you may have regarding our proposed program.

In addition to this overview we do have two short briefings available to present to the committee. The first is a short briefing on the NATO infrastructure itself and how it works. The second is the Army's [deleted] in Europe. They are both important features of our program and we can present them now, if you like, or later when we take up the NATO program.

Thank you.

Senator THURMOND. I think we should do it now. It should only take a few minutes, I understand.

Mr. FLIAKAS. The NATO infrastructure program runs 8 to 10 minutes, and the Army, General Delbridge, has a 10-minute briefing [deleted].

With your permission, we will present them now.

Senator THURMOND. Let us take about a 10-minute recess right now.

[Brief recess.]

Senator THURMOND. The hearing will come to order.

Mr. FLIAKAS. I would like to introduce Commander Harper of my staff. We are very fortunate to have Commander Harper. He spent 5 years in SHAPE and he is prepared to give a very short briefing on how infrastructure works.

Senator THURMOND. We are glad to have you, and you may proceed.

STATEMENT OF COMMANDER WILLIAM HARPER, USN, OFFICE OF DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR INSTALLA- TIONS AND HOUSING

Commander HARPER. This will describe the NATO infrastructure program which is NATO's commonly financed military construction program.

NATO INFRASTRUCTURE PROGRAM

This describes the purpose, the program scope and the funding, the policies and interface with the U.S. military construction.

The program mentioned is a commonly funded one. Planning and establishment of the priorities of the program are the responsibility of the NATO military commanders. Their goal in this respect is, of course, the optimum balance and mix of military facilities and some equipment procurement throughout all of the NATO area. The program is cost shared by 13 participating nations which have military forces assigned to NATO, and on occasion by 14 nations where France participates. The 15th member of NATO, Iceland, does not participate in this program.

While the contributions to the program vary among the nations, each of the nations still has an equal vote in all of the decisionmaking regarding particular programs; therefore, any decisions require the unanimous approval of all of the participating nations. If there is a disapproval by any single nation, it can block the program at any point.

This particular program started in 1950, about 1 year after the signing of the North Atlantic Treaty and its purpose was to rebuild postwar Europe and provide those military installations and facilities needed for the defense of that particular region.

The program in its initial stages was very modest, with primary attention being given to airfields and communications. Since that time, the program has expanded significantly in response to changes in NATO strategy, force assignments and deployments of new weapon systems.

The NATO definition of "infrastructure" originally was limited to fixed facilities and included buildings, roads, runways and piers and so forth. However, in response to the items that I just mentioned, the program has expanded to include these areas as well.

Currently, the nations in concert have agreed that they will support projects in 13 separate and distinct categories of infrastructure. These are the 13 categories shown here, Mr. Chairman.

Approved NATO infrastructure categories: Airfields; naval bases; petroleum storage; warning installations; navigation aids; communications; surface-to-air missiles; surface-to-surface missiles; ammunition storage; forward storage sites; training installations; war headquarters; and reinforcement support.

Of particular interest to the United States at the present time is the surface-to-air missiles category, which provides those operational facilities for deployment of the Patriot missile; the surface-to-surface missile category, which provides the facilities for the deployment of the GLCM system and Pershing II; and munitions storage, which provides secure storage facilities for nuclear weapons only and does not include conventional ammunition storage.

In the reinforcement support category, which is the most recently approved category, the common funded program provides facilities for the storage of the Army's POMCUS in northern Germany, [deleted].

While this program is very broad in scope, as indicated by these 13 categories, the nations have agreed together that there are certain

restrictions and program limits. In order to be eligible for NATO funds, the projects must support NATO operational plans and NATO assigned forces; therefore, national forces such as U.S. Military Airlift Command, MAC, or the Strategic Air Command, SAC, which are not NATO-committed forces are not eligible for NATO infrastructure support.

All of the projects within NATO must possess a high degree of common interest and, most importantly, must be available for use by all NATO nations in wartime; and, lastly, all of the projects must conform to NATO-approved set of criteria and standards.

Normally, these standards—and, again, I might mention that these have been agreed to by all of the participating nations—these standards are generally rather austere and have been designed to support only minimum requirements necessary for wartime operations.

Regarding U.S. participation in this program it is current policy that the United States makes maximum use of the NATO program. In that respect, all of our military construction needs should be funded through the NATO infrastructure program to the maximum extent possible. We have been implementing this policy; however, as indicated before, not all of our military construction in Europe can be funded under this program or meet these requirements.

Despite our continued efforts to get projects funded in the NATO infrastructure program, some areas, such as quality of life improvements and family housing, and personnel support facilities, are not eligible and therefore must be funded with national funds. In this regard, when specific infrastructure operational facilities are funded by NATO, then we must conjunctively fund the required support facilities.

DIVISION OF COSTS: AIRFIELD PROJECT

Costs paid by NATO: Civil works, communications, utilities, required for wartime mission of assigned squadron.

Costs paid by user nation: Personnel support facilities—mess halls, barracks, clubs, family housing, gyms.

Costs/responsibilities of host nation: Costs—Real estate, access roads, rail spurs, utilities. Responsibilities—Product design, fund authorization request, bid invitation, contracting, supervision of construction, final cost accounting.

This particular graph shows a division of costs. In using this as our example, we chose an airfield project, as indicated, the wartime operational facilities such as the civil works, communications, utilities, and aircraft shelters, are paid for by the NATO common-funded program.

HOST NATION RESPONSIBILITIES

The costs paid by the user nation, or that nation which uses the facilities are shown. Examples might be the U.S. Air Force bases at Bitburg, Germany, or Avione, Italy. We must then fund all personnel support facilities and the other items, as shown here.

The host nation, that nation on whose soil the facility is built, also has certain costs and responsibilities. The host nation must provide for the NATO facility all of the real estate, access roads, rail spurs, and railheads required, and all of the connecting utilities.

I might add, these are nonreimbursable costs for the host nation. In some instances, such as in Germany, which has a good deal of Federal

lands, these are given over to the NATO infrastructure program. Other countries, the Benelux countries, for example, must go out and buy private parcels of land, and then in turn give them to the NATO infrastructure program for appropriate facilities.

The host nation also assumes all of the responsibilities of the normal administrative and design functions associated with any military construction program. In total, it is estimated that over the years the host nation actually provides about 13 percent of the total cost of any given project. This is an average over the years.

Now, I mentioned that the program is cost shared. This will give you an idea of the present cost-sharing arrangements between the participating nations.

NATIONAL CONTRIBUTIONS (PERCENT OF TOTAL)

[Cost sharing formula]

Country	February 1961	Current	
		AT 14	AT 15
Belgium.....	4.24	5.59	4.84
Canada.....	5.51	6.35	5.50
Denmark.....	2.87	3.72	3.22
France.....	12.00		13.22
Germany.....	20.00	26.54	22.99
Greece.....	.67	.79	.69
Italy.....	5.97	7.98	6.92
Luxembourg.....	.17	.21	.18
Netherlands.....	3.83	5.10	4.45
Norway.....	2.37	3.14	2.72
Portugal.....	.28	.20	.20
Turkey.....	1.10	.80	.80
United Kingdom.....	10.50	12.00	10.46
United States.....	30.85	27.42	23.75

The first column is 1961 and will show that over the years all of the other NATO nations, particularly those in Western Europe, as their economies have improved, have increased their percentage contribution to the NATO program, while that of the United States has been allowed to decrease.

This column shows the percentage share when only the 13 participating nations are involved, with France being excluded. This column shows instances where France does participate, then the percentage contribution is here. As Mr. Fliakas pointed out, the United States leads the list with 27.4 percent, followed closely by Germany with 26 percent, and then the United Kingdom and Italy.

Senator THURMOND. Turn back that chart, if you will, please. What is shown for France there?

Commander HARPER. In 1961, when she was part of the integrated structure, and participated at 12 percent; however, with no forces committed to NATO now, she only participates in the warning installation category; the early warning network. On those particular projects in that particular category, France has elected to participate in the program and provides 13 percent of all of the money for those types of projects.

Senator THURMOND. Is there a feeling now that France might be induced to do more?

Commander HARPER. As a matter of fact, in discussions within the international community, France has indicated that perhaps she would like to participate in other selected categories, notably in petroleum storage and distribution.

Senator THURMOND. I thought we might be able to get that cooperation.

FUND CEILINGS

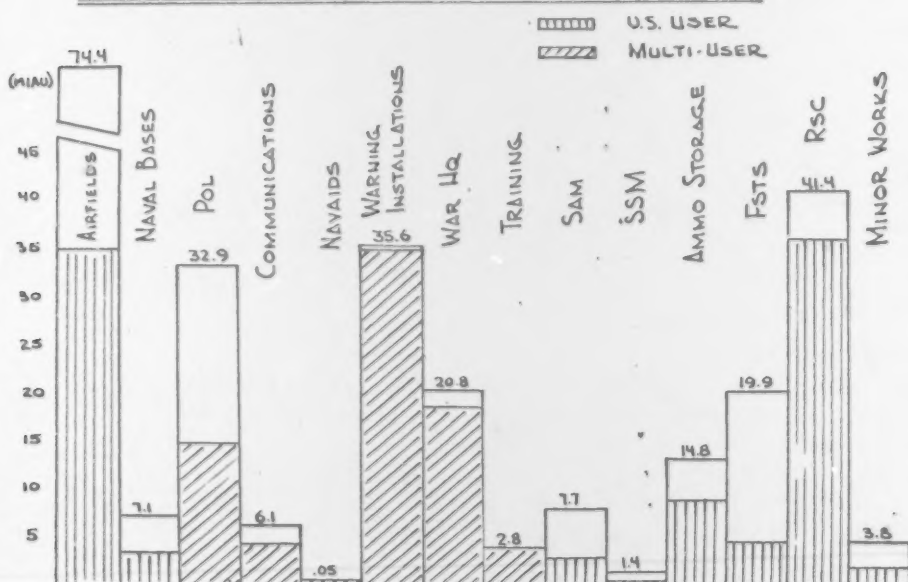
Commander HARPER. In order to avoid long and protracted discussion and arguments about the level of support for the NATO infrastructure program, the nations have agreed to establish fund ceilings for 5-year periods. In this first period, from 1980 to 1984, and they have established the current 5-year program at \$4.5 billion, of which the U.S. share, out over a number of years, is \$1.2 billion.

Once the nations have agreed to fund the infrastructure fund ceiling at these specific amounts, it represents a binding financial commitment on the part of the participating nations.

I might point out here, too, that at the time this financial commitment is made, during the NATO ministerial meetings, it does not obligate U.S. funds. As a matter of fact, what it does is give programming authority to the individual NATO commanders, and then yearly they submit a program for military construction. Each of the projects in that annual program then must be authorized or funded, for they are authorized on a project-by-project basis.

As these funds are submitted through the NATO headquarters, then the U.S. obligates funds. Therefore, Mr. Chairman, the authorization shown is for our calculated estimate of the number of projects that will be coming through these NATO committees for fund authorization in any given year.

SLICE 31 PROGRAMMING : ALLIED COMMAND EUROPE



As far as benefit to the United States is concerned, this is just a typical breakout of the last annual approved slice of annual military construction program. This shows the level of emphasis in each of the categories I showed before, and the bars in yellow show the number of projects, the percentage of projects specifically for U.S. user facilities; and as shown for airfields, over half of the program was dedicated to the United States only.

The bars in blue for petroleum distribution, and warning installations are those which show multiuse or NATO-wide projects, where it is difficult to ascertain the benefit to any single nation. So you can see, for just U.S. user-only projects, we pay about 27 percent in the program, but well over a third of the programming is specifically for U.S. forces. If we include also our participation in the benefits derived from these multiuse projects, then that particular percentage increases to some 50 percent.

The current situation is that the cost of the priority requirements exceeds available funds. When the original fund ceiling was set, it represented about 50 percent of the total funds required, and therefore the NATO military commanders have now put in requests for supplemental funding in the order of \$3.2 billion, of which the U.S. share will be some \$840 million.

Because of these priority problems, the Secretary of Defense has directed that U.S. participation in this particular program be centrally managed, so there is a proper interface with our U.S. military construction programs. That charter has been given to the Assistant Secretary of Defense, M.R.A. & L., and more specifically, to the Deputy Assistant Secretary of Defense for Installations and Housing, Mr. Eliakas.

NATO PROGRAM ADVANTAGES

Last, Mr. Chairman, I would like to sum up the briefing with a few of the program advantages, looking at it strictly from a military manning and organizational viewpoint.

The NATO program, because the programming authority and planning is given to NATO military commanders, allows a coordinated military program; it allows the placement of those particular military installations and facilities in those areas of the NATO theater where they are most needed; it facilitates the NATO-wide implementation for those types of projects which cross national boundaries such as pipeline systems; it allows for standardization throughout NATO, so that certain facilities, such as airfields and naval bases can be used by all participants.

In this regard, it is a cost effective program, particularly because all projects within this program must be subjected to international competitive bidding. It is not indicated here, but the program also recognizes certain economic disparities faced among the various nations, such as countries like Greece, Portugal, and Turkey. They are important within the NATO alliance, and they have certain facilities which unilaterally they would not be able to fund.

So, in sum, on the whole the program does allow the best operational balance and mix of military facilities throughout the NATO area, and in this regard it is to our best interest to participate.

Mr. FLIAKAS. We will provide the committee copies of the slides, if you would like, Mr. Chairman.

Senator THURMOND. Thank you very much.

Mr. FLIAKAS. We can wait until we get into the questions, but if you would like, Mr. Chairman, I would like to go into the second briefing that we have prepared, a 7-minute briefing, on the master restationing plan of the Army in Europe. However, it is classified so I would like to ask that we go into executive session, if you desire to hear that now.

Senator THURMOND. The subcommittee will now go into executive session.

EXECUTIVE SESSION

We will go into executive session and anyone not cleared to be here, will you please excuse yourself. Mr. Smith, if you will have the Defense Department vouch for everyone here.

Mr. FLIAKAS. We will do that.

Senator THURMOND. We will check everyone on the committee staff.

Mr. FLIAKAS. I would like to introduce General Delbridge of the Department of the Army General Staff.

Senator THURMOND. You may proceed.

STATEMENT OF BRIG. GEN. NORMAN G. DELBRIDGE, JR.

General DELBRIDGE. Thank you, Mr. Chairman.

In view of the sensitive discussions which are underway between Defense and the State Department and the German Government, this briefing is classified.

RESTATIONING PLAN OF ARMY IN EUROPE

In our fiscal year 1982 program the Army requested \$18 million to initiate the first construction which would implement the [deleted]. My comments were necessarily brief in view of the sensitive discussions which are underway here in Washington at this very moment between the Defense and State Departments and Minister of Defense of Germany.

The [deleted] was prepared by USAREUR in response to the Warsaw Pact (WP) buildup begun in the early 1970's and which continues today. [Deleted.]

Our needs simply stated are [deleted] and at the same time as our forces are moved from old and deteriorating facilities, provide adequate facilities and address our force modernization needs.

Our current dispositions in Germany look like this. In essence, our forces are situated not far from where we stopped at the end of World War II. [Deleted.]

Let me point that out for you, Mr. Chairman. For example, units of the 8th Infantry Division are stationed an average of [deleted] kilometers from their [deleted]. Most of the division's maneuver battalions are west of the Rhine, with a third of its strength and all of its artillery at Baumholder, [deleted] kilometers from the [deleted].

The division must cross the Rhine and Main Rivers and pass through the large Frankfurt/Hanau metropolitan and industrial complex [deleted].

Its 2d Brigade at Kitzingen is scattered over 250 kilometers with one battalion at Wildflecken, and one battalion near Augsburg [deleted].

This latter battalion has to travel more than [deleted].

The additional benefit of replacing our old and deteriorating facilities cannot be overemphasized. The present stationing of USAREUR units is basically a product of the immediate U.S. occupancy of German Armed Forces installations following World War II. These installations are small, by U.S. standards, scattered and most of them were built prior to World War II. Many of the facilities originally occupied are still being used by our forces today.

Most are not adequate to house and maintain a modern heavily mechanized volunteer Army. Replacement and modernization as well as maintenance and repair of facilities have been underfunded. Particularly during and after the Vietnam conflict. Consequently, there is a large construction requirement to replace 40 year old inadequate and obsolete facilities.

And finally, over the years, initiatives to modernize our forces have filled available facilities to the brim so that present and future initiatives will require construction if they are to be fully implemented. Significant force modernization improvements are scheduled for Europe over the next 5 years. Initiatives designed to counter the increasing Warsaw Pact threat include the systems which I covered in the overview.

The contrast between our current disposition and condition of our facilities is rather dramatically portrayed here. The slide on this left is that of a German tank park compared with that of a U.S. mechanized unit.

Another U.S. armored unit is shown on the right. On the left is a Warsaw Pact facility in East Germany located close to the border with West Germany.

The [deleted] addresses these needs by providing the framework to plan for the [deleted] in modernized facilities. It has been used by the Army as its [deleted] for construction in Europe since 1978. All construction since the 1980 program has been compatible with but not driven by the [deleted].

Last year Congress expressed its concern as to the source of funding for the [deleted]. In response to that concern the Department of Defense in coordination with the State Department has initiated a series of high-level discussions with the German Government. On November 4, 1980, the American Ambassador to Germany presented a demarche covering eight U.S. force issues to the German Ministry of Defense. One of the highest priorities was a request for support of the [deleted].

Discussions between Secretary of Defense Weinberger, State Department representatives and Mr. Appel, the German Minister of Defense, are being conducted here in Washington today. We look forward to the results of these discussions. [Deleted.]

The Army's large and complex 5-year construction program in Europe has been developed using the [deleted]. We are fast approaching a decision point on that program. [Deleted.]

The next phase, that of sustainment, will meet the ultimate objective of the plan to consolidate units in modern [deleted] thereby achieving economies in base operations, increased efficiencies in command and control and improved readiness. The concept envisions [deleted].

In summary, the Army is endeavoring to comply with congressional guidance on this matter and we ask your support for fiscal year 1982 funding of [deleted].

Sir, this concludes my presentation on the [deleted] and I will be pleased to assist the panel in any questions you might have.

Senator THURMOND. What did you state the total cost of this plan is?

General DELBRIDGE. I will refer that question to General Groves.

General GROVES. Mr. Chairman, there is no present estimate of the total cost, sir. It depends entirely on how far the plan goes and the cost-sharing arrangements entered into. Theoretically the program could be executed at no cost [deleted]. We need to explore this [deleted].

Senator THURMOND. I understand this would do two important things. [Deleted] is that correct?

General GROVES. That is correct.

Senator THURMOND. It would seem that the German authorities would see the wisdom of that from their own standpoint.

General GROVES. There are two problems here that we have to solve before this thing can be made to work. The first is how you make the process self-sustaining. [Deleted] to make it self-sustaining.

The other problem and the most urgent present problem is how to make the thing start. One way of course would be [deleted].

Senator THURMOND. Thank you.

Mr. Fliakas, is there anything else you would like to say?

Mr. FLIAKAS. Only to reinforce what has been said, that what we need is a program that is supported by both governments and must be taken in tandem. It cannot be taken in isolation. So hopefully negotiations will prove successful.

Senator THURMOND. I have a few questions then if you would care to answer them now.

Mr. Fliakas, I am pleased to see that your military construction request for fiscal year 1982 is up substantially over that enacted for fiscal year 1981. In broad terms, leaving out family housing for the moment, you have gone from \$3.375 billion in 1981 to \$4.66 billion in your 1982 request, and increase of \$1.285 billion or nearly 40 percent, is that correct?

Mr. FLIAKAS. That is correct, Mr. Chairman.

Senator THURMOND. How do you account for such an increase?

ENORMOUS BACKLOG OF CONSTRUCTION

Mr. FLIAKAS. Primarily, Mr. Chairman, the recognition of the initiatives that have been undertaken by both administrations and reinforced by the new administration to support our deployments of new weapons

systems in Europe, to support the innovations or the initiatives of the Indian Ocean and Persian Gulf, the introduction of the GLCM, the ground-launched cruise missile in Europe, introduction of the air-launched cruise missile, as well as our commitment to those quality-of-life issues I discussed.

We have an enormous backlog of construction. We have waited too long, actually, and we believe now that this budget more closely approximates that that is needed to sustain those requirements. As indicated, sir, I am greatly alarmed, and we have discussed this from time to time, we have a great concern that we are operating a World War II plant. Most of the facilities are 25 to 30 years old and I can give you a profile of the various categories where it indicates the age of those facilities.

We cannot continue to neglect obsolescence. We must do a better job of anticipating and programing our facility requirements for replacement and modernization. So we believe that this budget more truly reflects the order of magnitude that is required for military construction.

Senator THURMOND. Mr. Fliakas, I believe you said that your construction backlog was about \$60 billion.

Mr. FLIAKAS. That is true, sir, but might be misleading in the sense that we do project our facility deficiencies over a 5-year period, and that does include the MX system which is on the current basing mode. So in response to the context that I have been discussing our facility deficiencies, if you were to subtract the MX from that figure, I believe we have about a \$39 billion deficiency that is related to our ability to execute our current missions, provide expanded facilities to take care of deficiencies in the existing inventory, as well as modernizing and replacing the inventory.

My greatest concern, sir, is not really our ability to support weapon deployments and force structure because those do get a high priority. The biggest concern is the over, almost \$18 billion deficiency we have for replacement and modernization. That is what we are trying to get at.

Senator THURMOND. Can you give us some idea about the makeup of that backlog?

Mr. FLIAKAS. Yes, sir. For support of new missions about 49 percent of the backlog is about \$29 billion. For support of present missions, it is about 21 percent which is \$12 billion and for replacement and modernization, 30 percent of the backlog is \$18 billion. I can provide for the record the backlog by facility category.

Senator THURMOND. If you can do that, that would be helpful.

Mr. FLIAKAS. I will, sir.

[The information follows:]

MAKEUP OF BACKLOG

Question. I believe you said that your construction backlog was about \$60 billion. Can you give us some idea about the makeup of that backlog? How much is for replacement facilities versus facilities required by new missions? How much is for construction inside the U.S. versus overseas construction?

Answer. a. A breakout of the backlog by Military Department and by facility category follows.

b. A breakout of the backlog by mission support and replacement and modernization follows:

	<i>Billions</i>
New missions (49 percent)-----	\$29.7
Current missions (21 percent)-----	12.7
Replacement and modernization (30 percent)-----	18.2
Total (100 percent)-----	60.6

c. The current backlog as of 31 December 1980, includes \$52.4 billion for CONUS construction and \$8.2 billion for overseas construction. However, it should be noted that the CONUS figure includes \$18.4 billion for M-X missile system requirements.

MILITARY DEPARTMENTS—TOTAL FACILITY DEFICIENCY (EXCLUSIVE OF FISCAL YEAR 1982)

(Military construction, by facility category, in millions of dollars)

Facility category	Defense agencies	Army	Navy	Air Force	Total
Operational.....		1,641	1,646	21,200	24,487
Training.....		956	558	160	1,674
Maintenance/production.....		2,988	2,758	610	6,356
Research and development.....		450	324	590	1,364
Supply.....		1,439	735	440	2,614
Medical.....		1,250	789	600	2,639
Administrative.....		1,015	492	265	1,772
Troop housing.....		2,212	1,370	670	4,252
Community.....		1,457	483	325	2,265
Site prep utilities, P/A energy.....		2,845	1,884	2,000	6,729
Land.....		63	697	60	820
Minor construction/design.....		986	664	480	2,130
Subtotal.....		17,302	12,400	27,400 ¹	57,102
Guard/Reserve Forces facilities.....		1,540	270	595	2,405
Defense agencies.....	1,050				1,050
Grand total.....	1,050	18,842	12,670	27,995	60,557

¹ Includes approximately \$18,400,000,000 for MX missile facilities.

Senator THURMOND. How much is for replacement facilities versus facilities required by new missions?

Mr. FLIAKAS. For replacement, sir, it is about \$18 billion, as compared with over \$40 billion for new missions and support of present missions.

Senator THURMOND. How much is for construction inside the United States versus overseas construction?

Mr. FLIAKAS. Our data isn't developed that way and I will have to take a stab at that.

Senator THURMOND. Can you furnish that for the record?

Mr. FLIAKAS. If I may, sir, I would guesstimate 30 to 35 percent overseas.

Senator THURMOND. Are you happy with your level of funding this year, and do you think it represents a reasonable funding level in view of the backlog?

Mr. FLIAKAS. We are, of course, happy with the funding level because it does represent a substantial increase but we still have a long way to go. At the present rate of funding in order to address the backlog we just discussed, we are running at about an 8- to 10-year program to address facilities required for new missions, and about a 15- to 20-year period for replacements.

Senator THURMOND. One of the ways to address this huge backlog is to get more support from our allies where we have U.S. forces stationed overseas. How much of your authorization request for fiscal year 1982 is for construction overseas and will you tell us generally where this money will go?

Mr. FLIAKAS. Yes, sir, almost \$2 billion of our construction program is overseas. This, of course, does reflect those things that I mentioned, continuing support of NATO, introduction of new weapons systems and, of course, the Indian Ocean and Persian Gulf. About \$1.1 billion is in Europe, and I can provide for the record a country breakout. Four hundred and seventy-three million dollars is in the Indian Ocean-Persian Gulf, and \$425 million is in the Pacific, of which almost \$150 million is in Korea. Those are the principal locations, Mr. Chairman.

Senator THURMOND. What are you doing to get our allies to pay more of this overseas construction cost?

Mr. FLIAKAS. I would like to ask Colonel Pfeiffer from our International Security Affairs Office, Policy Division, to address that if I may.

Colonel PFEIFFER. Good morning, Mr. Chairman.

We do not have specific data as you requested in the form of accumulated statistics that actually cover this for the allied countries. But there are a number of efforts underway, as part of our host nation support initiatives but a total field study would have to be conducted to give the specific breakouts. But there are some examples that I can give in this hearing. We can identify several related areas of such assistance.

NATO INFRASTRUCTURE PROGRAM

For example, in Germany it provides a significant quantity of real estate, military installations, training areas and so on, which you are already familiar with, and these are provided to the United States rent free. A rough overall estimate of the yearly rental value of real estate provided to the U.S. Army in Europe, for example, is almost \$1 billion. There are other examples in bachelor officers' quarters, dining halls, and so on. The same applies to a number of other countries, for example, Italy, Luxembourg, Netherlands, and the United Kingdom all provide O. & M. facilities, other support, many times the utilities themselves, as they normally provide on NATO infrastructure projects for U.S. forces.

Many of these countries do subsidize family housing and they provide other no-cost facilities, sometimes such as depots. Others provide free real estate. These things have developed over the years just being host to our forces, but we do not at the present time have a specific breakout in dollars and cents.

Mr. FLIAKAS. I might add that we have been very successful in increasing our participation in the common funded NATO infrastructure program for additional categories. Most notable is the reinforcement support category which primarily benefits the United States. So we are getting more out of the NATO infrastructure program.

Senator THURMOND. Now turning to the Trident, the west coast Trident base in the State of Washington is nearing completion, I believe.

Mr. FLIAKAS. That is correct, Mr. Chairman.

Senator THURMOND. As I understand it this base was designed to handle 10 Trident submarines and that the master plan envisioned expanding to 20 Trident submarines in the future. Is that accurate?

Mr. FLIAKAS. Yes; it is.

TRIDENT BASE AT KINGS BAY, GA.

Senator THURMOND. You have requested funds in this budget to begin construction of an east coast base at Kings Bay, Ga.; is that correct?

Mr. FLIAKAS. Yes, sir.

Senator THURMOND. Given the slippage in the Trident submarine building program and the capability of the west coast site to handle the first 10 Tridents, is it necessary for construction of the east coast base to begin this year?

Mr. FLIAKAS. Yes, Mr. Chairman, we are seeking some money on that.

Senator THURMOND. How much have you requested for 1982 for Kings Bay and what will be the total cost?

Mr. FLIAKAS. Well, the total costs over a period of years could approximate \$1 billion. For 1982 there is \$65 million in facilities and \$12 million for access roads, as well as a request for 165 units of family housing at Kings Bay. I would like to ask a representative of the Navy to supplement that answer, sir, in terms of why the construction is needed.

Senator THURMOND. I might ask this question, too, before you answer that. If you are not going to have any Trident submarines to put in Kings Bay until some time after 1990, why do you need to start construction in fiscal year 1982?

Commander LEAP. I am Commander Leap of the Navy. The primary reason for proceeding with construction this year—actually there are two reasons.

First, unlike Bangor, we have no base infrastructure and we need to go in and put in our initial utility services before we can do any vertical construction. Second, we have to do a significant amount of dredging this year in order to lay the foundation for our future construction.

Senator THURMOND. I was just wondering, if you used Charleston, couldn't you have saved money?

Mr. FLIAKAS. Charleston, of course, is supporting the Kings Bay project, there is no question about it.

Senator THURMOND. Why did you feel the need to proceed to Kings Bay at this time?

Mr. FLIAKAS. Well, primarily, sir, for the expansion of the program that Charleston couldn't handle, as I understand it.

Senator THURMOND. Would it be worthwhile to take another look and see if it would save you money?

Mr. FLIAKAS. The Navy has conducted exhaustive studies on the potential of many, many sites on the east coast, and the Secretary of the Navy did announce as a preferred alternative the Kings Bay site.

Senator THURMOND. That was another administration, though, and I am just wondering now, since there have been changes and conditions are different, if it might not pay to take another look.

Mr. FLIAKAS. It was looked at, of course, and in the Reagan budget amendment it was reaffirmed that Kings Bay is the preferred site for that site, and for that system.

Senator THURMOND. Don't keep your mind closed, and it won't hurt to reexamine the question, will it?

Mr. FLIAKAS. All right.

Senator THURMOND. In any event you won't have any submarines going there for 10 years, will you?

Mr. FLIAKAS. As far as the basing of the Trident submarine in the Atlantic, that is correct. But the Trident missile retrofit program will be introduced in the Atlantic and much of this construction is in support of that.

Senator THURMOND. I am informed that you are inaccurate in what you just said. Would you check that for the record.

Mr. FLIAKAS. All right, sir, I will.

[Additional information follows:]

NAVAL SUBMARINE SUPPORT BASE, KINGS BAY, KINGSLAND, GEORGIA

It is true that the majority of the military construction at Kings Bay, Georgia, is associated with the ultimate deployment of Trident submarines at the location. However, about 20 percent of the request (\$15.9 million) is in support of the current mission of the Tender operations which were relocated from Rota, Spain. The request for unaccompanied enlisted personnel housing, a child care center, and 165 units of family housing is in support of the current mission.

Senator THURMOND. I have a few more questions. In the budget amendment you have made certain reductions from the original Carter budget. You mention reduced inflation rates and revisions to Davis-Bacon regulations. Discuss the reduction in the inflation rates. What rate did the Carter budget assume and what is the net impact on the request?

Mr. FLIAKAS. Yes, sir, Mr. Chairman.

The January 15 budget submitted by former President Carter reflected for construction a 9-percent rate of inflation. As a result of the President Reagan amendment, that 9-percent inflation factor was reduced to 7.2 percent in 1981, and 6.8 percent in 1982, and 5.9 percent in 1983. The Office of Management and Budget predicts in the out years that the inflation rate will be reduced to 5 percent by 1984 and thereafter. So to recap, Mr. Chairman, as a consequence of the application of these new rates of inflation, the 1981 budget was reduced by \$60.3 million and the 1982 budget was reduced by \$164 million, to account for that reduction or that deflator.

DAVIS-BACON ACT

Now did you want me to cover the Davis-Bacon Act as well, sir?

Senator THURMOND. I wish you would.

Mr. FLIAKAS. Many people are considering the reduction attributed to Davis-Bacon as the elimination or abolishment of Davis-Bacon, and that is not correct. What is predicted is that as a result of better administration and a tighter management on application of the Davis-Bacon Act, that a reduction of about \$70 million will be brought about by that better application. It does not apply in 1981 because the Department of Labor has to develop its management procedures in order to better administer the Davis-Bacon Act.

As a consequence, it is expected that the first application, as a consequence of reduction, will be made in our budget in 1982. But I want

to add that this is a reform, or a better administration of Davis-Bacon, and not an elimination of it.

Senator THURMOND. As you may be aware, this committee approved the legislative provision to waive the Davis-Bacon Act requirements on the fiscal year 1980 military construction bill. Are you familiar with that?

Mr. FLIAKAS. Yes, sir.

Senator THURMOND. And that action was overturned on the Senate floor.

Mr. FLIAKAS. Yes.

Senator THURMOND. This year it might be a different situation. Would the Defense Department support a similar Davis-Bacon Act waiver applied against your fiscal 1982 request?

Mr. FLIAKAS. Well, the administration, as reflected in the President's budget, envisions a better management of Davis-Bacon and a better application of it, as opposed to elimination. So I, personally, Mr. Chairman, would not favor a waiver for military construction only. We do not feel that the Department of Defense should be out front and seek exemption or waiver to Davis-Bacon. This could be disruptive, and it could be counterproductive, and we believe that any reform or adjustment of the Davis-Bacon Act should be uniformly applied to all Federal construction.

That is my personal opinion, Mr. Chairman.

Senator THURMOND. Why shouldn't it be on this?

Mr. FLIAKAS. Well, because we have to work and live with the construction industry in the United States, and I believe it would be counterproductive.

Senator THURMOND. The construction industry wants to do away with it, doesn't it?

Mr. FLIAKAS. I believe that is certainly their position; that is correct.

Senator THURMOND. Therefore, wouldn't you please them if you waived Davis-Bacon?

Mr. FLIAKAS. What I am saying is that if it is to be waived or eliminated, it should be applied to all Federal construction.

Senator THURMOND. Now, is that your concern, or is that a concern of the Congress? It would suit me to do away with the Davis-Bacon Act altogether, but if we get it done away with in defense construction that would be a step in the right direction and perhaps help us to do away with it entirely.

Mr. FLIAKAS. Well, sir, I am citing, of course, the administration position which would address it in terms of total Federal construction and not just for military construction.

Senator THURMOND. I think you are going to find this administration will probably be in favor of doing away with it altogether, but if it takes this as a first step to accomplish that, you wouldn't object to it, would you?

Mr. FLIAKAS. I would not object to it, sir. I am merely pointing out that there are pitfalls as well, because it would set aside defense construction, as opposed to all Federal construction, and it could be misleading and it could be giving the wrong signals and it could be disruptive.

Senator THURMOND. How much would it save to waive Davis-Bacon?

Mr. FLIAKAS. It has been estimated, sir.

Senator THURMOND. I think you have testified before on this matter.

Mr. FLIAKAS. I did.

Senator THURMOND. Is it millions of dollars?

Mr. FLIAKAS. That is correct, Mr. Chairman; I have so testified.

Senator THURMOND. What was the figure 2 years ago when you testified?

Mr. FLIAKAS. I don't believe I gave a dollar figure. We have estimated a range of 5 to 15 percent of our costs in given areas. Now, as you know, in certain areas where there is mostly closed shop, the influence of Davis-Bacon isn't as great, so we would have to be selective. In the northeastern cities, for example, which are more heavily impacted by unions, then of course Davis-Bacon has less cost impact.

Senator THURMOND. You have an increased military construction bill this year.

Mr. FLIAKAS. Yes.

Senator THURMOND. It is 40 percent more, isn't it?

Mr. FLIAKAS. Yes.

Senator THURMOND. Therefore, if you saved about \$400 million before, this time you could save an additional amount?

Mr. FLIAKAS. Sir, it is not just Davis-Bacon, sir. There are many other social and welfare programs that we have to comply with, not only Davis-Bacon but there are also the minority goals, there are women in construction, and there are small business set-asides. The Association of General Contractors that I meet with regularly has estimated that on defense contracts or all Federal contracts, as much as 35 to 40 percent of our costs are attributed to social and welfare programs.

What I am saying, sir, is that there are many practical considerations.

Senator THURMOND. Davis-Bacon is not so much social, is it?

Mr. FLIAKAS. Well, I believe so. It dates back to the Depression.

Senator THURMOND. If you want to go to women or small business, that is another thing, but Davis-Bacon applies to all, big and little, doesn't it?

Mr. FLIAKAS. It does; yes, sir. What I am saying, Mr. Chairman, is that I can give you my personal opinion and I would not object to certainly what you are suggesting, that the Congress would take action on it. But I am suggesting that it probably should be looked at in terms of all Federal construction.

RESERVES AND GUARD

Senator THURMOND. I have a few questions here regarding the Reserves and the Guard. The Reserves always seem to get the "short end of the stick" when it comes to defense spending. Military construction is no different. What is the backlog of construction for the Guard and Reserve forces?

Mr. FLIAKAS. It is estimated at \$2.4 billion.

Senator THURMOND. The Reagan budget amendment actually reduced the amount originally allocated to the Guard and Reserve in the Carter budget. Why?

Mr. FLIAKAS. It is not really, Mr. Chairman. What happened was the application of that deflator of the escalation rate. That was applied to all projects in the United States. So the Guard and Reserve program also was reduced not in terms of numbers of projects but in terms of the dollars or the cost estimates.

Senator THURMOND. How do you decide how much to budget for Guard and Reserve construction?

Mr. FLIAKAS. That is primarily, sir, a matter of priorities established by the military departments and the components. There is a huge deficiency, and it is a question of putting 10 pounds in a 5-pound bag. Everything has to take competing demands and the balanced program that develops from that is the sense of the Departments of the Army, Navy, and Air Force sense of priorities, and the approval of those priorities by the Secretary of Defense.

Senator THURMOND. It seems that anytime there is a shortage it is taken out of the Guard and Reserve. What do you think?

Mr. FLIAKAS. Well, sir, we believe this is a balanced program. That may have been the case in the past.

Senator THURMOND. Setting aside MX construction, it appears to me that the Guard and Reserve forces backlog constitutes about 6 percent of your total backlog—\$21½ billion divided by \$42 billion. However, construction for the Guard and Reserve forces in fiscal 1982 constitutes only 4 percent of your total fiscal year request. That is \$200 million divided by \$4.66 billion. Why shouldn't the Guard and Reserve forces share of the construction funds requested be approximately the same as their share of the total backlog?

Mr. FLIAKAS. Your arithmetic is correct, Mr. Chairman, but I think that if you consider—

Senator THURMOND. What is wrong with my philosophy?

Mr. FLIAKAS. As is your philosophy. But what I would like to point out, sir, is that the military departments place a high priority on their active force support and deployments of weapons systems and I believe that if you delete from those numbers consideration of weapons systems support and deployments, taking out for example the Trident and the MX, then I think that the percentage actually is about the same; it is about 6 percent actually.

Senator THURMOND. Would you mind checking that again and see if you can't come up with a little larger proportion for the Guard and Reserve?

Mr. FLIAKAS. Yes, sir, I will provide a recap of that and make a comparison for you for the record.

Senator THURMOND. If you are wrong you won't mind changing it?

Mr. FLIAKAS. Not at all.

[The information follows:]

COMPARISON OF ACTIVE SERVICE BACKLOG AND PROGRAMS WITH THAT OF THE GUARD

[Dollar amounts in millions]

Item	Active service	Guard and Reserve	
		Amount	Percent of Active service
Total backlog.....	\$57,100.0	\$2,405	4.2
Less MX/Trident.....	38,700.0	2,405	6.2
Fiscal year 1982 request.....	3,705.8	203	5.5
Less MX/Trident.....	3,251.6	203	6.2

These figures indicate that the Guard and Reserve Components are funded in the same general relationship with respect to their reported backlog as are the Active Services. Disregarding the impact of Trident/MX from both the backlog and the fiscal year 1982 request, the Guard and Reserve portion of both is 6.2 percent of the Active Service portion.

Senator THURMOND. I have some questions on Middle East bases, construction in Europe and base realignments. I thought it might save time just to answer them for the record. Would you like to do that?

Mr. FLIAKAS. Yes, sir, Mr. Chairman.

Senator THURMOND. Is there anything else that you or anyone with you would like to add at this time?

Mr. FLIAKAS. I can sum up very quickly and then ask both Mr. Pelletreau and General Groves to add if they would like.

We believe that the program is balanced. We recognize that we have deficiencies, and we think it certainly is a good start. President Reagan added over \$500 million to the construction budget. We certainly agree with the initiatives with respect to the reduction in the inflation rate and Davis-Bacon, albeit I point out the distinction in our discussion on the part of the administration is a better management of Bacon-Davis as opposed to your suggestion of a complete waiver.

But all in all we think that we have initiatives and innovations in our program that reflect a balanced view because not only must we support our operational requirements but we also must treat the quality of life and the working and living conditions. I was pleased to see Senator Jepsen's report to the Armed Services Committee who pointed out the many deficiencies in Europe.

I understand you will visit some of those installations next week, and I certainly commend them to you, sir. What you will find, and I am sure you have seen this before, but we have deplorable conditions in many of those areas. I visited remote sites in Turkey, for example, a year ago and found that it doesn't take too much to really improve the lot of our servicemen, perhaps a gymnasium here or a barracks upgrade there, but we have neglected them far too long.

This budget does attempt to redress those deficiencies.

So we commend this to you as a very vital part of the military construction program. I would like to ask Mr. Pelletreau, the Deputy Assistant Secretary of Defense—Near Eastern, African and South Asian Affairs—Office of the Assistant Secretary of Defense—International Security Affairs—if he would like to make any comment?

Mr. PELLETREAU. I have no further comments, Mr. Chairman.

General GROVES. I would like to make one, Mr. Chairman, in furtherance of your earlier question about initiatives underway to get our allies to contribute more to our military construction program. I understand, sir, you will be in Bonn next week and it is very important that you understand some of the things that were mentioned to the Germans by our Ambassadors, as was briefed to you previously. Not only did we ask to initiate discussions [deleted] but we asked for assistance on family housing, for assistance in modernizing our facilities [deleted] and assistance in dealing with our soldiers' individual problems, some of which involve housing and financial problems.

We also asked for assistance with getting better maintenance for our bases by enabling us to call upon the German maintenance per-

sonnel who maintain the Bundeswehr facilities and finally for assistance with our pollution abatement problems. We have asked the Germans, sir, to initiate with us discussions to go into these things, which we hope would lead to some progress and some relief to our own budgets as we get on with this vitally needed work.

If you can support it in any way, sir, while you are in Bonn, we would be most grateful to you.

Senator THURMOND. Thank you, gentlemen.

[Questions submitted for the hearing record, with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

FUNDS FOR M-X

Senator THURMOND. How much is included in your fiscal year 1982 request for M-X construction?

Mr. FLIAKAS. Our fiscal year 1982 budget submission contains a request for \$522.3 million for M-X related facility planning, design, and construction. Of this amount, \$156.3 million is required for facility planning and design; \$366.0 million is for long lead item procurement, real estate acquisition, and construction.

Senator THURMOND. I think your statement referred to a total M-X construction cost of \$18 billion. Provide for the record a funding profile for the total cost and discuss briefly how this total compares to previous estimates. As I recall, you gave us a higher figure last year.

Mr. FLIAKAS. A comparison of current total M-X design and construction cost estimates with analogous estimates last year (expressed in fiscal year 1980 constant dollars) is as follows:

PROJECTED M-X FACILITY DESIGN AND CONSTRUCTION COSTS

[In millions of fiscal year 1980 constant dollars]

Fiscal year	1980 estimate	1981 estimate
1980.....	56	56
1981.....	91	112
1982.....	370	406
1983.....	1,880	1,350
1984.....	1,770	1,850
1985.....	2,735	2,255
1986.....	2,970	2,335
1987.....	2,300	1,750
1988.....	675	595
1989.....	185	355
Total.....	13,032	11,064

The reduction in design and construction cost estimate of nearly \$2 billion (fiscal year 1980 constant dollars) was due primarily to two system engineering refinements which have reduced the construction requirements—but correspondingly increased other appropriations such that the total M-X \$33.8 billion (fiscal year 1980 constant) has remained unchanged. The previous integral “transporter-erector-launcher” concept for transportation of the missile from shelter to shelter was changed to a “loading dock” concept. Instead of enclosing the transporter with missile within the shelter we now plan to insert the missile into a tube within the shelter. This change resulted in a smaller shelter. Also a determination was made that shelter spacing could be reduced from 7,000 ft. to 5,200 ft., thereby reducing the amount of roads required throughout the designated deployment area.

The \$18 billion I referred to earlier in my statement represents the current cost if expressed in “then year” dollars developed by escalation rates established by the previous administration. As you know, these rates have recently been changed. We are currently developing new funding profiles using these revised escalation rates and a differing application of the Davis Bacon Act. To avoid the uncertainties inherent in the cost escalation process I’ve presented my comparison for you in constant fiscal year 1980 dollars.

M-X BASING

Senator THURMOND. Secretary Weinberger is restudying the entire M-X basing question, and according to his recent testimony, he will not complete this study until some time this summer. In arriving at your cost estimates—both the total cost and the amount of fiscal year 1982—what assumptions did you make regarding basing?

Mr. FLIAKAS. Our overall M-X construction estimates are based upon construction of 4,600 horizontal multiple protective shelters (200 separate clusters of 23 shelters each) and two operating bases in Nevada-Utah region. Costs for split basing are not included in our total cost estimates. Our fiscal year 1982 request provides for early site development, procurement of some long lead items, and initial increments of real estate acquisition which are generally required at any of the four candidate locations for the first operating base.

Senator THURMOND. If some basing scheme is adopted other than the horizontal shelter scheme approved by President Carter, will you need any of the construction money that you have in the fiscal year 1982 budget?

Mr. FLIAKAS. Yes, some funds would still be required. The exact amount would depend on which particular basing scheme is adopted. At a minimum, we require facilities to assemble, checkout and flight test the missile and also we need funds to acquire the M-X Support Complex at Norton AFB.

Senator THURMOND. Has anyone, other than the Air Force, looked at the construction costs of M-X? Isn't it possible that a "Blue Ribbon" panel of construction experts might significantly refine—and perhaps reduce—the cost estimates?

Mr. FLIAKAS. The Army Corps of Engineers has performed their own Independent Cost Analysis of the M-X construction costs. Also the costs have been analyzed by Air Force contractors such as Parsons and TRW.

Senator THURMOND. Where does the siting decision stand? I am referring to the so-called "split-basing" question—whether to site all the missiles in Nevada-Utah or to put some of them in Texas and New Mexico.

Mr. FLIAKAS. The Deployment Area Selection and Land Withdrawal/Acquisition Environmental Impact Statement (EIS) process which currently is underway is designed to provide the basis for site selection. In December, this EIS was published in draft form and the Air Force is now receiving public comments on the document. Public hearings are being held in the impacted area and the comment period will end on 1 May 1981. Alternatives being considered include full deployment in Nevada/Utah, full deployment in Texas/New Mexico or split basing of the system half in each of these areas. Once all of the public comments have been received and incorporated, the final EIS will be filed with the Environmental Protection Agency. This is expected to occur in July. A decision on the deployment area can then be made a minimum of 30 days later.

In response to your committee's direction last year, we have conducted a rather indepth comparison of costs and consequences associated with split basing and the preferred basing scheme. That report, forwarded to the Congress late January 1981, concluded that the system cost was the only major discriminant between the two basing alternatives. Split basing will cost approximately \$3.5B (FY 1980 dollars) more than the preferred alternative due to the requirement for another missile assembly complex and the acquisition of private land. On the balance, there are no overriding military, environmental, or socio-economic advantages or disadvantages of either alternative.

Senator THURMOND. How are you doing the design of this M-X construction when you haven't finally decided how or where you will base the missiles?

Mr. FLIAKAS. Above grade facilities are being designed in a "non-site specific" manner and will be sited to a specific location after an official site selection is made. With respect to the below grade facilities (roads, utilities etc.) which cannot be designed in a non-site specific mode, our plan is to design the facilities at each of the candidate locations for the first operating base assessed by the Environmental Impact Statement. We are aggressively designing now in order that the IOC of July 1986 can be accommodated. Multiple site design must be accomplished so that the IOC can be ensured given an ultimate site selection at any of the four candidate locations.

Senator THURMOND. Are you spending any money on basing schemes other than the option to include all 200 missiles in the Utah-Nevada region? If so, provide a detailed accounting of such funds.

Mr. FLIAKAS. At this point in time the funds being spent apply to all the alternatives identified in the draft EIS, including split basing. No alternatives have been precluded.

Senator THURMOND. If this M-X system is built, it will involve a construction effort of unprecedented size. Compare the size of this project with other major construction efforts, such as, the Panama Canal, the Minuteman silo program, and the Alaska pipeline.

Mr. FLIAKAS. Recent research which compares the M-X construction program with other major construction efforts indicate that M-X construction, placed in its proper context, is not of unprecedented size. Generally, the M-X construction effort will be larger than the manpower and resource requirements associated with the Minuteman program. However, it will be considerably less than the Panama Canal and Alaska Pipeline construction programs. The manpower required during the peak of M-X construction activity in 1986 will be about half the peak manpower involved in Panama Canal construction and about 80 percent of that required to construct the Alaska Pipeline. Cement requirements of M-X are comparable to that used in the Panama Canal while the M-X steel requirements are only about 70 percent the amount of steel used to build the Alaska Pipeline. Finally, with respect to the amount of earth to be moved and cement to be used, the M-X construction will represent less than 5 percent of the level of effort required to construct the Interstate Highway System.

M-X MANAGEMENT PLANS

Senator THURMOND. Management of the M-X construction program will take extraordinary effort. What can you tell us of your management plans?

Mr. FLIAKAS. Many activities are underway to effectively manage this large construction project. A specific Air Force civil engineering management office, the Air Force Regional Civil Engineer-M-X, has recently been established at Norton AFB to directly manage all aspects of M-X facility planning, design and construction as well as M-X related environmental and land withdrawal activities.

Collocated with the AFRCE-M-X, is a M-X dedicated Corps of Engineers organization which serves as the design and construction agency for the bulk of the M-X construction effort. Both organizations are currently being manned. An official Memorandum of Understanding has been established between the two organizations. Further, we are developing a Management Information System which will be used to effectively manage the various data required by this program. Also, we are analyzing previous large construction efforts for "lessons learned" and attempting proper application to the M-X construction program.

Senator THURMOND. I understand you are now planning to build two new bases if the basing goes in accordance with President Carter's decision—that is, all 200 missiles and 4,600 shelters in Nevada and Utah. Why couldn't you get by with a single base located near the center of the deployment area?

Mr. FLIAKAS. The basic reason a decision to deploy two bases was made was due to span of control considerations and a desire to mitigate the socio-economic impacts associated with the increased population and activity. More efficient supervision can be developed with two bases as considerably less people are assigned at each. Travel distances are reduced leading to increased missile alert availability and increased morale. In addition, a smaller number of remote alert areas are required with two bases. It was determined that the additional cost of two bases (\$350 million, fiscal year 1980 dollars) is minimal when the potential payoffs in management and morale are considered, and the more suitable distribution of positive and negative impacts are identified.

BASE REALIGNMENTS

Question. Mr. Fliakas, base closures and realignments are always troubling to the people involved. Over the past ten years, there has been list after list of base closures and people's lives have been continuously disrupted. Fort Jackson, in my State, has suffered needlessly while study after study was made to see if Fort Jackson or Fort Dix should be closed. I can understand the need to close bases in times of declining budgets and declining manpower. But, we have turned the corner in Defense—budgets are going up—and it is sheer folly to give up valuable land and air space that our defense establishment needs. I am not talking about stopping all base closures—some minor adjustments may be possible

in the base structure to save money—but by and large we should not be giving up valuable real estate. Do you agree?

Answer. Mr. Chairman, we agree that the proposed increases in the Defense budget will increase the utilization of the domestic base structure in the future to some degree. However, the utilization of the current domestic base structure is still well below our most recent peak strength after the end of the conflict in Southeast Asia. In addition, as you know, the Secretary of Defense has indicated that with the planned increases, the Department must seek all possible economies, efficiencies, and management improvements in order to reduce non-essential Defense costs. Base realignments are just one area that is being looked at by the entire Department. I fully agree with you, however, and have advocated for some time that the fact that a base is currently not needed does not mean it should be excessed since valuable land, air space, etc. is too hard to obtain. Such a base should be placed in caretaker status and not be excessed.

Question. Mr. Eliakas, let me read you a quote: "The Department of Defense installation and logistic structure costs about \$40 billion per year to operate. While progress has been made over the years in consolidating this structure to accommodate our modern military forces, more can be done. Up to 5 percent per year in facility costs could be saved after full implementation of a program involving:

- realignments that would reduce the size of the overall structure; and
- increased use of contractual services in places of in-house Government activities, wherever economically justified."

Do you agree with this statement that we could save \$2 billion each year by further base realignments and contracting out?

Answer. I agree that additional actions to streamline and contract the domestic base structure can be taken to avoid future unnecessary Defense costs.

Question. Mr. Eliakas, that quote is from President Reagan's Program for Economic Recovery, dated February 18, 1981. I am certainly a foremost proponent of economy in Government, however, I think base closures are false economy. I would like to know how much DoD has spent in the last 10 years on useless studies and environmental impact statements for base realignments that were never implemented. You have \$30 million in this request to buy more land at Fort Carson, Colorado! DoD needs to do two things—first, put to rest the idea that the base structure is fat; you can't afford to give up any more valuable real estate, second, streamline your procedures for minor realignments, decide what needs to be done and do it—don't keep people "hanging" for years. Do you agree?

Answer. Only recently have there been a number of studies which produced status quo recommendations. The annual cost avoidance in fiscal year 1980 dollars for the base realignment actions implemented since 1969 exceeds \$11 billion. The annual cost avoidance achieved by a base realignment is realized every year after complete implementation; study costs are one time costs. The overall cost of studies resulting in status quo recommendations is not considered substantial in view of the savings resulting from all the studies accomplished at any one time. The Fort Carson land acquisition is needed because of changed training requirements in order to keep Fort Carson viable as a division post. We are also proposing to acquire land for the MX and have and will continue to acquire land for the AICUZ program. The acquisition of land for a specific purpose is not directly related to the fact that the domestic base structure is considered underutilized. With regard to your two points, I'd like to summarize as follows:

1. The domestic base structure still requires streamlining and contracting but we agree, as I mentioned earlier, that we cannot excess property we may need in the future.

2. I agree that we should not have people "hanging" for years on various proposals. I would like to avoid that. However, under the current rules, we must announce our intentions to study any type of significant proposal, thereafter accomplish the study and then obtain public input. This is a lengthy process and keeps people "hanging" far too long in my opinion but without a change in legislation we have no recourse. It is true that we sometimes add to this already lengthy period because during the study period changes take place which require more time and possibly restudy before a decision can be made. This is, as you know, Mr. Chairman because the DoD is a dynamic not static organization. Under previous rules where the studies would not have been announced until completed, such changes would have taken place without the need to keep people "hanging". We do our utmost to avoid such lengthy periods of uncertainties.

Senator THURMOND. Mr. Fliakas, the issue of military construction in Europe is one of the most troubling issues in this bill. The requirements in Europe are growing, the facilities are getting older, the allies are doing less and less, and the people who suffer as a result are our servicemen and women who have to live and work in deplorable conditions. Senator Jepsen of our committee was in Europe recently and has written a report that I would label a serious indictment of our Government in its treatment of our men and women in uniform. I would like to quote one line from that report and I will include the entire report in our hearing record:

"The American soldier in Germany today fares far worse than his West German counterpart, and our soldiers are not unaware of this situation."

I am planning to visit Europe next week to get a firsthand look at this situation.

Mr. Fliakas, just what is the construction backlog in Europe?

ANSWER. Senator Jepsen's observations are correct. You should consider, however, the circumstances that have led to our present situation. In the 1960's and early 1970's of necessity, most of our construction funds were programmed for Southeast Asia, with very little for Europe. Again in the 1970's the draft was eliminated and, with the advent of the All Volunteer Force, it was necessary to concentrate our construction efforts in the continental United States, particularly in the training and barracks areas in order to attract and retain personnel. As a consequence of these actions, along with providing operational facilities to support our equipment modernization efforts in Europe, the living and working conditions of our troops suffered.

I would also like to point out that the American troops are mostly installed in kasernes that were constructed prior to World War II. The German soldier, on the other hand, is living and working in kasernes that were built after 1954 with the reestablishment of the Bundeswehr. While their facilities are less than 25 years old, many of ours are some 50 years old.

On the question of construction backlog, the Department of Defense programs on a five-year basis and the five-year construction requirement in Europe is approximately \$5 billion. Of this amount, approximately 50 percent is planned to be programmed through the NATO Infrastructure Program and the remaining 50 percent with U.S. military construction funds. The amount that will actually be programmed through the NATO program is dependent upon the priorities of the Major NATO Commanders and their success in obtaining a large mid-term increase.

FUNDS FOR CONSTRUCTION IN EUROPE

Senator THURMOND. How much have you requested in your FY-82 budget for construction in Europe?

ANSWER. The total request for European construction is \$1.125 billion. Of this amount, \$425 million is for the U.S. contribution to the NATO Infrastructure program.

Senator THURMOND. What initiatives are under way to get our allies to do more in the military construction area to support U.S. forces?

ANSWER. On November 4, 1980 our Ambassador to Germany delivered to the German Ministry of Defense a prioritized list of issues for which we are requesting German support. The issues included facilities related to the [deleted] Family Housing deficiencies, Facilities Operations, and Pollution Abatement projects. Follow up discussions have indicated limited German interest in pursuing these issues.

We have also initiated Host Nation Support talks with the BENELUX and United Kingdom with a general indication of their support.

In NATO Infrastructure, of course, the Alliance has recently approved the Reinforcement Support Category, most of which will be for U.S. forces. Through the recommended Slice 33, the value of these projects is some \$675 million.

Senator THURMOND. Mr. Fliakas, why shouldn't the West German Government pay the cost [deleted]?

ANSWER. [Deleted.] We have asked for support in several areas: NATO Infrastructure, wartime Host Nation Support, as well as peacetime Host Nation Support, while continuing to expect modernization of the German Armed Forces. As explained in the briefing, we expect the program to become self-sustaining.

Senator THURMOND. Provide for the record the funding authorized for construction in Europe since 1975 and your forecast of what that figure will be for the next five-year program?

ANSWER. The information follows:

[In millions of dollars, fiscal years]

	Authorized							Re- quested 1982	Programed			
	1975	1976	1977	1978	1979	1980	1981		1983	1984	1985	1986
NATO infrastructure.....	84	80	80	85	166	185	300	425	375	400	425	450
Military construction.....	90	160	135	310	290	195	309	655	468	462	492	571
Total.....	174	240	215	395	456	380	609	1,080	843	862	917	1,021

It should be noted that all figures are in "then year" dollars. The fiscal years 1983-86 totals reflect the amounts that are contained in the current DOD five-year construction program and are subject to review and change each year.

Senator THURMOND. Have you established any overall priorities for construction in Europe? For instance, why are you requesting gymnasiums, chapels, and community facilities when people are living and working in the conditions described by Senator Jepsen?

ANSWER. In meeting the needs of our forces living overseas—given existing fund constraints—we must try for some degree of balance in our construction program. There is no question that living conditions, whether they be family housing or barracks, must be improved. However, there are other requirements which have to be addressed also—medical and recreation facilities for both troops and their dependents, schools, and other quality-of-life features.

In each of our overseas bases, we coordinate closely with the services and—they—with individual base commanders to determine specific priority requirements. As you know, we are continuing to actively seek increased host nation support in this area, but, for the near term these problems can only be resolved by supporting the required level of military construction funding for these much-needed requirements. It must be stressed, however, that personnel support facilities must compete with a number of operational facilities required in support of new weapons system deployments.

ANALYSIS OF CONSTRUCTION REQUIREMENTS IN EUROPE

Senator THURMOND. Your statement mentions that the Secretary of Defense has directed an analysis of the construction requirements in Europe. Expand a bit on this directive. Was it Secretary Weinberger who directed this analysis? What is the scope of the analysis and when it is to be done? (Provide a copy of the Secretary's directive for the record.)

Mr. FLIAKAS. The plan that I was referring to is known as the "Plan for Construction in Europe", which was approved by Secretary of Defense Harold Brown on November 30, 1979. This is a comprehensive plan for improving the planning, programing and execution of construction in Europe. The responsibility for the management of the Plan resides with the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics) (ASD(MRA&L)) who has delegated it to me.

Specifically, the Plan calls for briefing OMB and the Congress on the capabilities and limitations of the NATO Infrastructure program—the brief you just received and which has been given to the House Appropriations Committee and House Armed Services Committee. It also includes a closer alignment of NATO programing procedures and those of the Department of Defense; development of alternative methods of achieving facilities support, e.g., Host Nation Support; identification of facilities requirements early in the Defense Acquisition process for procurement of new equipment; and development of a reasonable achievable five-year rolling construction program we are making headway in achieving the goals of the plan, but there is no completion date for the plan. It is a management plan, or guide, that will be continuously updated. Among the achievements to date: (1) the establishment of a Steering Group, of which I am the Director, to provide policy for the management of construction in Europe, (2) development of a five-year construction program for Europe and the fiscal year 1982 budget request is our second year the request has been developed in this manner, (3) I have a person assigned to all new equipment procurement initiatives

to insure adequate facility consideration, (4) in our five-year construction projection, we are now considering the NATO Commanders' priorities as well as Secretary of Defense guidance in structuring our program, (5) either myself or a member of my staff acts as the head of the U.S. delegation to SHAPE planned conferences to provide U.S. position on recommended NATO construction programs, and (6) we have established goals, and monitor their achievement for each of the Services.

Mr. Chairman, these are but some of the items of the Plan that we have been addressing. A copy of the plan was provided to the Committee under separate cover.

NATO INFRASTRUCTURE PROGRAM

Senator THURMOND. Briefly explain the NATO Infrastructure Program and how it works?

ANSWER. Overview of the program was provided in a special 10 minute briefing during the hearing.

Senator THURMOND. Mr. Fliakas, you are requesting \$425 million as the U.S. contribution to the NATO Infrastructure program. What will this money be used for? What would happen if you didn't get this authorization?

ANSWER. As pointed out in the briefing, the U.S., as did all other participating nations, agreed to support a 5-year fund ceiling covering the period 1980-84. The U.S. contribution is some \$1.2 billion—27.4 percent of the total of \$4.5 billion approved.

At the time of agreement, the U.S. committed itself to this contribution, however, funds were not actually obligated.

As already described, due to the rather unique mechanics of the NATO program, funds are authorized on a project-by-project basis. At the time individual projects are presented to Headquarters, NATO for fund authorization, the U.S. must obligate its share. The \$425 million requested is our best estimate of amount required to meet our contribution during fiscal year 1982. It is based on a calculation of the total of all previously approved projects which will be presented to NATO Headquarters for fund authorization.

In the event the U.S. did not receive this authorization, it would not be able to meet its contribution to the program and, as a consequence, fund authorization for all projects—those for the allies and the U.S.—would be deferred. This, in effect, would represent a retraction of our earlier commitment. Politically, of course, this would be an embarrassment for the U.S. and, more practically would delay the implementation of many projects specifically in support of U.S. forces.

Senator THURMOND. The NATO Infrastructure Program sounds like a good deal for the U.S.—we pay about one-fourth of the cost, and get about one-half of the benefits. Can't we expand the NATO Infrastructure Program?

ANSWER. Since its inception, the NATO Infrastructure Program has been steadily expanding to meet changes in NATO strategy, growing force structures, and weapons systems deployments. The briefing high lighted the benefit to U.S. reinforcement efforts of the recent approval of the Reinforcement Support Category. There are some areas, however, where funding should remain a national responsibility. Because of varying opinions among the NATO nations regarding the nature and scope of personnel support facilities, it would be extremely difficult to obtain a consensus on the standards to be funded. Equally, there are some areas such as chemical and biological warfare protection where, in the long term, it is less expensive for the U.S. to fund our requirements nationally rather than pay 27 percent of the total cost of such facilities and equipment for all the nations.

We continue to monitor the program carefully and, in those instances, where the U.S. has exceptional justification for program expansion on case-by-case deviations from standard criteria—then funding requests are forwarded for NATO consideration. It should be remembered that the primary purpose of the NATO Common Infrastructure Program is the provision of operational facilities for wartime use.

Question. You are now embarked on a construction program to upgrade several bases in and near the Middle East. Would you briefly discuss each of these bases, tell us why you need that particular base, and how much it will cost to do the work that is planned? (Provide a map of the area showing base locations for the record.)

Answer. The discussion of each base and map were provided to the committee under separate cover.

Question. Let's take the bases one at a time. First, Diego Garcia. How much have you spent on that base through fiscal year 1981?

Answer. The following amounts have been appropriated for construction at Diego Garcia through fiscal year 1981.

[In millions of dollars, fiscal years]

	1970-78	1980S	1980 (sec 402)	1981	Total
Navy.....	59.7	7.5	8.6	108.177	183.977
Air Force.....	3.3	0	0	23.700	27.000
Total.....	63.0	7.5	8.6	131.877	210.977

Question. How much do you have in your fiscal year 1982 budget request?

Answer. The budget request for fiscal year 1982 includes the following amounts for construction at Diego Garcia:

	Millions
Fiscal year 1982:	
Navy	\$122.75
Air Force	114.99
Total	237.74

Question. How much will it cost to complete the work that is now planned? (Provide an out-year funding profile for the record).

Answer. The Department of Defense current Five Year Defense Plan contains funds in the amounts indicated for future construction on Diego Garcia:

[In millions of dollars, fiscal years]

	1983	1985	Total
Navy.....	26.975	0.590	27.565
Air Force.....	38.190	9.030	47.220
Total.....	65.165	9.620	74.785

The programmed amounts are subject to change as conditions evolve in the Indian Ocean and Persian Gulf.

Question. How many people will be stationed there ultimately?

Answer. The long term projection is for an island population of 2,150 people. This figure does not include the several hundred Seabees there now doing construction work, nor does it include the anticipated civilian construction work force.

Question. What specific capabilities do you want to develop here?

Answer. Diego Garcia is the "hub" of the effort to project U.S. Naval power into the Indian Ocean. It serves as a communication station, and as a logistical support site for both surface and aerial forces. Facilities in place or being developed include an airfield, fuel storage, waterfront facilities, warehousing, water supply facilities, and recreational facilities.

Question. How will you handle the contracting for construction?

Answer. Contracting for construction in Diego Garcia will be a cost plus award fee contract with a joint venture of U.S. and British firms. It will follow the provisions of the DOD American preference policy and the country-to-country agreement for Diego Garcia.

Question. Where do we stand on consultation with the British? Do we have formal documents reflecting British concurrence to use the island for the purposes intended? (Provide the documents for the record.)

Answer. The consultations with the UK government regarding our uses of Diego Garcia were conducted by the Department of State. The Department of State will provide a response to this question directly to the Committee.

Question. Are you asking for funds [deleted]?

Answer. [Deleted.]

Senator THURMOND. Do you have any plans to construct either storage or maintenance facilities [deleted]? Have the British been approached about the possibility [deleted]?

Mr. FLIAKAS. The Air Force has no plans to construct any facilities for the storage or maintenance [deleted]. We have no knowledge of discussions on this subject with the British.

MIDDLE EAST BASES (OMAN)

Senator THURMOND. How much have you spent on that base through fiscal year 1981?

Mr. FLIAKAS. The Air Force has spent \$85.5M in fiscal year 1981 on construction in Oman: \$3.0M at Khasab and \$82.5M at Masirah Island. No construction dollars were spent prior to that time.

Senator THURMOND. How much do you have in your fiscal year 1982 budget request?

Mr. FLIAKAS. The Air Force has \$78.5M in its MILCON budget request for Oman. This is spread over three locations, \$36.1M at Masirah, \$26.5M at Seeb and \$15.9M at Thumrait.

Senator THURMOND. How much will it cost to complete the work that is now planned? (Provide an out-year funding profile for the record.)

Mr. FLIAKAS. The total MILCON program currently envisioned for Oman (fiscal year 1981-fiscal year 1983) is approximately \$240M (fiscal year 1981—\$85.5M, fiscal year 1982—\$78.5M and fiscal year 1983—\$75.7M).

Senator THURMOND. How many people will be stationed there ultimately?

Mr. FLIAKAS. The country-to-country agreement currently provides for the stationing of no more than 100 people in-country. The Air Force expects that a small number of these will be for caretaker personnel.

Senator THURMOND. What specific capabilities do you want to develop there?

Mr. FLIAKAS. The Air Force plans to stage a TACAIR [deleted] at both Seeb and Thumrait and a TACAIR [deleted] at Masirah in addition to conducting [deleted] at both Masirah and Thumrait.

Question. How will you handle the contracting for construction?

Answer. The contracting in Oman will also be done in accordance with DOD established American preference policy and the country-to-country agreement. Projects under \$5 million will be advertised for international competition and awarded on a firm, fixed-price basis. Projects over \$5 million will utilize formally advertised firm, fixed-price contracts which, provided there is sufficient competition, will be limited to U.S. prime contractors and/or U.S./Omani joint venture firms.

Question. Where do we stand on consultations with the Omani government?

Answer. In mid-March a USAF/USAFE team met with Omani government officials to discuss our final design proposals for fiscal year 1981 MILCON projects at Khasab and Masirah. The Omani government has endorsed those proposals. The team also discussed preliminary construction concepts for facilities at Seeb and Thumrait to which the Omani government has agreed in principle. Additionally the Omanis approved the visit of a USAF/COE site survey team which will visit both locations. The team will obtain data for use in developing our construction projects at Seeb and Thumrait. These proposals will then be submitted to the Omani government for review before designs are finalized.

Senator THURMOND. When complete, will any facilities in Oman be capable [deleted]?

Mr. FLIAKAS. The Air Force is not building [deleted] capability at any of the Omani bases.

KENYA

Question. Next Kenya. How much have you spent on that base through fiscal year 1981?

Answer. Funds have not yet been obligated for Kenya. Appropriations in the amount of \$19.1 million have been earmarked for construction in Kenya from the fiscal year 1981 Indian Ocean and Persian Gulf contingency fund of \$105 million. All but approximately \$2.9 million of the \$19.1 million is for dredging at Mombasa harbor. Additionally, the fiscal year 1981 supplemental request contains \$9.0 million for dredging at Mombasa. It is planned to contract for that dredging in August or September 1981. The remaining construction, \$2.9 million in value, is planned to be placed under contract in September 1981.

Question. How much do you have in your fiscal year 1982 budget request?

Answer. The fiscal year 1982 request contains \$26.0 million for Kenya. Of that amount, approximately \$22.7 million is for additional dredging at Mombasa.

The remainder, approximately \$3.3 million, will provide miscellaneous facilities such as an air cargo terminal, general warehouse, navigational aids, access roads, communications and training facilities.

Question. How much will it cost to complete the work that is now planned? (Provide an out-year funding profile for the record).

Answer. The Department of Defense current Five Year Defense Plan contains funds in the amount indicated for future construction in Kenya :

Fiscal year 1983:

(Millions)

Navy ----- \$22.0

This programed amount is subject to change as conditions evolve in the Indian Ocean and Persian Gulf areas.

Question. How many people will be stationed there ultimately?

Answer. The exact number of permanent staff is subject to continuing review and negotiations with the host nation. Both the Government of Kenya and the U.S. desire to keep the permanent staff at a minimum. No personnel support facilities are being built. By far the vast majority of personnel employed ashore will be brought in for the duration of the requirement, and removed when the work is finished. Personnel will reside aboard ship or in local accommodations.

Question. What specific capabilities do you want to develop here?

Answer. When the construction is complete, it will be possible to operate P-3 and cargo aircraft at Moi International Airport, bring in supplies by air or water, transfer them between the seaport and airport, and ship out from either. Minor repairs will be possible on ships or aircraft. Liberty will be provided for ships crews. There will be no restrictions due to physical limitations on the port on the size or type of ship that can operate in the harbor.

Question. How will you handle the contracting for construction?

Answer. The contracting for construction in Kenya will be done in accordance with DOD established American preference policy and the country-to-country agreement. The dredging project will comply with Section 115 of the fiscal year 1981 Military Construction Appropriations Act which requires international competition with a 20 percent bid premium for United States firms. The remaining work totaling less than \$5 million will be bid through formally advertised firm fixed price international competitive procedures.

Question. Where do we stand on consultation with the Kenyan government?

Answer. We have concluded the access agreement (June 1980) and have begun to implement it's provisions. US use of Kenyan facilities has increased dramatically over the past year. US ship visits to Mombasa now average more than one per week. USAF C-141 aircraft regularly transit Nairobi (3-4 times a week) enroute to Diego Garcia. In terms of military construction, [deleted]. The approved projects include: parallel taxiway at Moi airport, Mombasa; parking apron, Moi; general warehouse, Mombasa; HE magazine, Mombasa Naval Base; access road, Mombasa Naval Base; Harbor dredging project; NAVAIDS, Moi; HE ready magazine, Moi; utilities installation, Moi; Helicopter pad, Moi; HE/pyrotechnic storage, Moi. [Deleted.] Basically we see no real impediments to our MILCON programs in Kenya.

Question. There was a recent press report which alleged that the House Foreign Affairs Committee had found that, despite our written agreement with the Kenyan government, they would not allow a significant U.S. military presence in Kenya. What is the official position of the Kenyan government regarding US military presence?

Answer. The Kenyans will allow almost any level of US military presence as long as it is temporary. The Kenyans will not allow a US base or US facility, in Kenya. US access, as specified in the agreement, will be limited to US use of Kenyan facilities. US presence has increased dramatically over the past year. We have had thousands of sailors ashore at any one time on shore leave, we have 2-3 C-141 crews in Nairobi at any given time and we have a liaison office staffed with 5 (soon to be 6) US military personnel. [Deleted.] The Kenyans have certainly lived up to the agreement thus far, and have given no indication that they would restrict US presence especially in time of crisis or emergency. The current level of US presence is sufficient for our peacetime needs.

Question. Will the Kenyan government permit shore leave for U.S. naval forces in Mombasa?

Answer. The Kenyan Government has for years, even before the access agreement, permitted shore leave for U.S. military personnel. Since signing the access

agreement in June of 1980 the U.S. has had over 40 ship visits to Mombasa, including aircraft carriers. All personnel were allowed shore leave. Such leave is good for the Kenyans and the U.S.

Question. Much of your money for Kenya is to dredge the river and harbor into Mombasa to accommodate a carrier at pier side. Why is this necessary and how much will it cost?

Answer. The entrance channel dredging and turning basin will permit a carrier to be moored or anchored inside the harbor. At present, large ships must be anchored outside the harbor. During five months of the year the wind and sea conditions are too severe to anchor outside the harbor and then transfer material or personnel by small boat to the waterfront. Total cost for dredging is estimated at \$65 million.

EGYPT

Senator THURMOND. Moving to Egypt, how much have you spent on that base through fiscal year 1981?

Mr. FLIAKAS. The Air Force has spent \$1 million of O&M funds to obtain a Base Development/Master Plan (which is 35 percent complete) in fiscal year 1981. No construction funds have been spent to date. Army has not spent anything for construction at this installation.

Senator THURMOND. How much do you have in your fiscal year 1982 budget request?

Mr. FLIAKAS. The Air Force is requesting \$70.4 million in the fiscal year 1982 military construction program for Ras Banas. Army is requesting \$36 million for a total of \$106.4 million.

Senator THURMOND. How much will it cost to complete the work that is now planned? (Provide an out-year funding profile for the record.)

Mr. FLIAKAS. Mr. Chairman, we estimate the total construction cost to be \$399 million. It breaks down to \$106.4 million for fiscal year 1982, \$165.1 million in fiscal year 1983, and \$127.5 million in fiscal year 1984. These are estimates based on preliminary master plans.

Question. How many people will be stationed there ultimately?

Answer. At this point in our planning, we have not identified our complete caretaker/maintenance requirements. We anticipate a force of 50-100 personnel, which would include as many Egyptian and contract personnel as possible. [Deleted.]

Question. What specific capabilities do you want to develop here?

Answer. In a peacetime environment, we would be using Ras Banas primarily as a depot for pre-positioned stocks and ammunition. It would also be used to stage through and support exercises in other parts of the Middle East. Periodic exercises at Ras Banas are also envisioned.

[Deleted.]

Question. How will you handle the contracting for construction?

Answer. Contracting for construction in Egypt will again be done in accordance with DOD American preference policy. Projects under \$5 million will be advertised for international competition and awarded on a firm fixed price basis. Projects over \$5 million will utilize formally advertised firm fixed price contracts which, provided there is sufficient competition, will be limited to United States prime contractors.

Question. Where do we stand on consultation with the Egyptian government? Is there a country-to-country agreement covering the base for Ras Banas?

Answer. Consultations with the Egyptian government are continuing, most recently between Secretary Haig and President Sadat during the Secretary's current trip to the area. While there is no existing country-to-country agreement, a broad measure of understanding was achieved during the Secretary's visit. We will have to await his return for details on the exact status.

Senator THURMOND. Are you asking for funds to make the runway at Ras Banas capable [deleted]? If so, why?

Mr. FLIAKAS. Yes. [Deleted.]

Question. Do we have any plans to construct either storage or maintenance facilities [deleted]? Have the Egyptians been approached about the possibility [deleted]?

Answer. No. no.

Question. What are the current plans regarding the stationing of U.S. Forces in the Sinai? Does this in any way affect your plans for Ras Banas or any of the other Mid-East bases?

Answer. There are no current plans for stationing U.S. Forces in the Sinai. Ambassador Sterner is working hard with both Israel and Egypt to determine how best to implement the provisions of the Peace Treaty. Under this treaty a multi-national force is to be provided to police the final separation and withdrawal of Israel from the Sinai (April 1982). Efforts are underway to establish a UN Sponsored Peacekeeping unit to perform this function. If the UN is unwilling to field such a unit then the U.S. is prepared, under provisions of the treaty, to contribute troops to such a multi-national force. The final composition of the peacekeeping forces will not affect our plans for Ras Banas.

MIDDLE EAST BASES (LAJES)

Senator THURMOND. With respect to Lajes air force base, how much have you spent on that base through fiscal year 1981.

Mr. FLIAKAS. The Air Force has spent \$20.0M on RDF associated construction through fiscal year 1981 at Lajes.

Senator THURMOND. How much do you have in your fiscal year 1982 budget request?

Mr. FLIAKAS. The Air Force's fiscal year 1982 MILCON request for Lajes in support of the RDF is \$49.6M.

Senator THURMOND. How much will it cost to complete the work that is now planned? (Provide an out-year funding profile for the record.)

Mr. FLIAKAS. The total Air Force MCP program for Lajes in support of the RDF is approximately \$146M. (fiscal year 1981—\$20.0M, fiscal year 1982—\$49.6M, and fiscal year 1983—\$76.3M.)

Senator THURMOND. How many people will be stationed there ultimately?

Mr. FLIAKAS. The construction in support of the RDF mission will not increase the current base population.

Senator THURMOND. What specific capabilities do you want to develop here?

Mr. FLIAKAS. The Air Force wants to be able to support [deleted] sorties per day in support of an airlift to the Middle East. This would improve the present capability of [deleted] sorties per day.

Question. How will you handle the contracting for construction?

Answer. This is currently under study by the Navy. However, Lajes, which falls outside the Indian Ocean/Persian Gulf region, is not included in the DOD established American preference policy. The contracting will most likely be a form of international competition.

Question. Explain the status of the country-to-country agreement covering this base? What can we do and what are we prohibited from doing?

Answer. Wartime use of Lajes Air Base is granted to the U.S. for the duration of the North Atlantic Treaty in a 1951 Defense Agreement which also provides certain peacetime rights. This agreement was extended in 1957 and again in 1971. An exchange of notes on June 18, 1979 once again extended U.S. peacetime rights in the Azores through February 4, 1983. The peacetime rights included construction of the installations, stationing of U.S. forces in the Azores and transit of U.S. aircraft.

[Deleted.]

Senator THURMOND. Can the runway at Lajes handle B-52's?

Mr. FLIAKAS. Although the runway is capable of supporting limited B-52 operations, the taxiway and apron pavements are not B-52 capable. In summary, the base could not currently support B-52 operations.

SOMALIA

Question. Finally in Somalia, how much have you spent on that base through fiscal year 1981?

Answer. Funds have not been obligated for Somalia. Appropriations in the amount of \$400,000 have been earmarked for construction in Somalia from the fiscal year 1981 Indian Ocean and Persian Gulf Contingency Fund of \$105 million. The \$400,000 will make minor improvements at both the Berbera airfield and port. It is planned to contract for that work in August or September 1981.

Question. How much do you have in your fiscal year 1982 budget request?

Answer. The fiscal year 1982 request contains \$24 million for Somalia. Of that amount approximately \$23.5 million is for improvements at Berbera port, which primarily consists of a 330 meter wharf extension and mooring buoys.

The remaining \$500,000 will provide minor improvements to the Berbera airfield.

Question. How much will it cost to complete the work that is now planned? (Provide an out-year funding profile for the record.)

Answer. There is currently no plan for future construction in Somalia.

Question. How many people will be stationed there ultimately?

Answer. The personnel to be employed here will be brought in for the specific support functions required, then withdrawn when the work is completed. No facilities are being constructed to provide berthing ashore.

Question. What specific capabilities do you want to develop here?

Answer. The airfield will be upgraded to permit operation of P-3 and logistics aircraft. Waterfront will be developed to permit resupply, fueling and periodic tender operations.

Question. How will you handle the contracting for construction?

Answer. The contracting for construction in Somalia will be done in accordance with DOD established American preference policy and the country-to-country agreement. Projects over \$5 million will be accomplished through formally advertised firm fixed price contracts which, provided there is sufficient competition, will be limited to US and joint ventures of US qualified host country firms.

Question. Where do we stand on consultation with the Somali government?

Answer. We continue to consult with the Somali government on a regular basis on all aspects of our relationship. There are currently no Somali restrictions on US presence or construction projects in Somalia. All planned projects and uses of Somali facilities have been approved by the GDSR.

Question. There have been reports that you are looking at other basing options in the Middle East—for instance, Karachi in Pakistan. Is there currently a deliberate effort to look for Mid-East bases beyond those discussed previously?

Answer. We are not currently undertaking negotiations for additional access beyond what I have already discussed; however, as our Southwest Asia strategy evolves and new requirements may emerge, we might need to seek additional access. If we did we would again do so in consultation with the Congress.

Question. Last year, rather than authorize funding for each specific site, the funding requests were lumped into a single contingency fund. (Provide for the record your original funding request by site compared with the way the funds were actually obligated from the contingency fund.) Would you object to the contingency fund approach for fiscal year 1982 to give you added flexibility?

Answer. Mr. Chairman, I would not object to the contingency fund approach for fiscal year 1982, however, I must advise you that procedure is not my preference. I believe our planning is much better than it was in the previous request and I believe that we have sufficient flexibility with our normal line item procedures. I will be happy to provide a comparison of the way the funds were actually obligated. Basically, we notified your Committee of our proposed plan for obligations in my letter dated January 21, 1981. The following table compares the original funding request with the current plan:

[In thousands of dollars]

Component and site	Initial request	Current plan
Army: Army staging facility.....	21,361	0
Navy:		
Oman.....	13,500	13,030
Somalia.....	10,000	400
Kenya.....	11,500	19,100
Air Force: Oman.....	5,700	72,470
Total.....	142,061	105,000

Question. We are spending a lot of money on these bases and I feel that to the maximum extent practical, these projects should be done with American contractors and with American materials. Toward that end, last year we included a provision requiring you to use American construction materials on these projects. Would you object to including the same provision in the fiscal year 1982 bill? Do you have specific recommendations for changes?

Answer. Yes, the intention of both Senate and House Authorization and Appropriations Committees was clearly to assist United States firms in bidding and

receiving contracts for construction of Indian Ocean/Persian Gulf facilities. Unfortunately, Section 405(e) of the Authorization Act is an extremely restrictive provision. Especially on small contracts, Section 405(e) presents almost insolvable problems. On several projects, we will be modifying or expanding existing facilities that were constructed to foreign standards and codes with other than United States materials. We are first faced with the practical and technical difficulty of integrating United States materials into these systems, problems which will be compounded later during project maintenance. Moreover, to require a local contractor, for example, to purchase small quantities of runway paint or aircraft tie-down steel in the United States and ship them on United States flagships, even if they are available, is the test of availability of United States shipping applicable, as it is in the 1907 Cargo Preference Act which already applied to this as well as any overseas construction program.

Appreciating the intent of Congress and the national and Department of Defense interests in this region of the world, the Department developed a construction policy which gives preference to American contractors. We believe that our American Preference Policy for the Indian Ocean/Persian Gulf region, together with the existing shipping laws, effectively support the intent of the Congress. In view of the very serious practical problems created by Section 405(e), the provision should be rescinded.

Question. How have you implemented that requirement? (Provide for the record the specific provisions that you are including in your contracts.)

Answer. The construction agents will incorporate the specific provisions as required by law. Only one applicable contract has so far been awarded. This was for the mobilization camp in Oman the requested provisions of which are provided.

EMPLOYMENT OF U.S. FLAG OCEAN-GOING VESSELS (1980 NOVEMBER)

(a) If ocean transportation is required after the date of award of this contract to bring any supplies, materials, or equipment, to the construction site from the United States for incorporation in the work called for by this contract, United States-flag vessels shall be employed in such transportation.

(b) If ocean transportation is required after the date of award of this contract to bring supplies, materials, or equipment other than that in (a) above to the construction site from the United States for use in performance of the work called for by this contract, United States-flag vessels shall be employed in such transportation to the extent such vessels are available at fair and reasonable rates for United States-flag vessels. The Contractor shall not make any shipment exceeding ten measurement tons (400 cubic) feet by other than a United States-flag vessel without notifying the Contracting Officer that United States-flag vessels are not available at fair and reasonable rates for such vessels and obtaining his permission to ship in other vessels. If such permission is granted, the contract price shall be equitably adjusted to reflect the difference in cost.

(c) The Contractor shall include the substance of this clause, including this paragraph (c), in each subcontract or purchase order hereunder which may involve the ocean transportation of construction supplies, materials, or equipment from the United States.

REQUIREMENT FOR AMERICAN MATERIALS (1980 NOVEMBER)

(a) (Agreement: In accordance with the Military Construction Authorization Act, 1981 (P.L. 96-418, 10 October 1980, 94 Stat. 1749 et seq.), the Contractor agrees that only domestic construction material will be used (by the Contractor, subcontractors, materialmen, and suppliers) in the performance of this contract, except for non-domestic construction material listed in the "Nondomestic Construction Materials" clause, if any, of this contract.

(b) Domestic construction material: "Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work. An unmanufactured construction material is a "domestic construction material" if it has been mined, refined or produced in the United States. A manufactured construction material is a "domestic construction material" if it has been manufactured in the United States and if the cost of its components which have been mined, refined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. "Component" means any article, material, or supply directly incorporated in a construction material.

(c) Domestic component: A component shall be considered to have been "mined, refined, produced, or manufactured in the United States" (regardless of its source in fact) if the article, material, or supply in which it is incorporated was manufactured in the United States and the component is of a class or kind determined by the Government to be not mined, refined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality.

NONDOMESTIC CONSTRUCTION MATERIALS (1980 NOVEMBER)

The requirements of the clause of this contract entitled "Requirement for American Materials" does not apply to the items set forth below: Cement, cement products, and aggregate.

PERSONNEL

(a) The personnel assigned by the Contractor in Oman shall at all times be acceptable to the Government of Oman.

(b) The Contractor shall furnish sufficient technical, supervisory, and administrative personnel to ensure the prosecution of the services in accordance with the progress schedule. (DAR-109.4)

QUESTIONS SUBMITTED BY SENATOR JOHN WARNER, ANSWERS SUPPLIED BY MR. PERRY FLIAKAS, DEPUTY ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND HOUSING)

MX FUNDING

Senator WARNER. Review for me the total M-X funding request for fiscal year 1982. Categorize the funding by account R.D.T. & E., procurement, construction, etc.

Mr. FLIAKAS. Our fiscal year 1982 M-X funding request is summarized as follows:

	<i>Millions</i>
R.D.T. & E.....	\$2423. 2
Procurement	
Construction	366. 0
Planning and Design.....	156. 3
Total	2945. 5

Senator WARNER. Provide a breakout of these funds showing those supporting only the missile development versus those supporting the basing system.

Mr. FLIAKAS. That breakout is as follows:

[In millions of dollars]

	Missile	Basing
R.D.T. & E.....	1, 349	1, 074. 2
Construction.....		366. 0
Planning and design.....		156. 3
Total.....	1, 349	1, 596. 5

Senator WARNER. What is the purpose for construction funds?

Mr. FLIAKAS. The purpose of our fiscal year 1982 M-X Milcon request is to continue the flight test facility construction program at Vandenberg AFB, Calif., and to acquire land and initiate site preparation work at the operational site preparatory to the major thrust of construction in fiscal year 1983.

Senator WARNER. Are there funds in any of the other accounts that will be used for construction of the basing system?

Mr. FLIAKAS. No; there are no other accounts that request funds to be used for construction of the basing system.

Senator WARNER. In arriving at your construction requirements for M-X, you obviously had to make some assumptions regarding the M-X basing mode. What assumptions did you make and how did you arrive at your estimates?

Mr. FLIAKAS. Our fiscal year 1982 M-X Milcon is scoped to accommodate the initial increment of land acquisition and support base construction at any of the four candidate locations for the first M-X operating base. We assumed MPS basing with total deployment within a single region. If split basing is directed the total out year construction requirements will increase; however our fiscal year 1982 is still generally valid as packaged.

Senator WARNER. Are you spending design funds now on basing schemes or sites that you know may not be used? (Provide for the record a list of all current design contracts, the amounts, and what the contract is for.)

Mr. FLIAKAS. To date the only design contracts that have been awarded are the non-site specific above grade facilities which are required to accommodate early construction and equipment assembly/checkout activities at the support base. They are as follows:

Project	Design contract amount (millions)	Description
Integrated support complex.....	\$999.0	(1)
Vehicle maintenance facility.....	199.7	(2)
Warehouses.....	199.3	(2)
Fire station.....	131.4	(4)
Test support building.....	640.0	(5)
Shops.....	138.8	(6)

¹ Provides various dining, computer, and administration support for site activation task force (SATAF) individuals, Corps of Engineers, associate contractors, and Air Force personnel.

² Provides servicing support for SATAF vehicles.

³ Provides necessary warehouse space to be used for storage of support equipment, spares, assembly and checkout test equipment and other MX weapon system equipment.

⁴ Provides fire protection for facilities being constructed in this MCP as well as facilities of fiscal year 1983 MCP.

⁵ Facility will support important test activities within the operational base test site (OBTS) to include a test area support center, test area support center, test operations control center, laboratory area, and administration support for associated personnel.

⁶ Provides various shops for field level fabrication, modification, repair, and calibration of equipment items associated with the MX program.

Please note that each of these facilities (with exception of the OBTS Test Support Building) have been planned with the long term steady state operational needs in mind. During the interim MX deployment stage, the facilities will be used as I've indicated.

Senator WARNER. If the Secretary of Defense selects an option other than the Utah-Nevada options, can you use the funds requested for construction in fiscal year 1982?

Mr. FLIAKAS. Some of these funds are definitely required even if an option other than horizontal MPS is ultimately selected. The exact amount of funds depends on the specific option selected. At a minimum, funds are required to continue the flight test facility construction program at Vandenberg AFB and to acquire a critical MX Support Complex at Norton AFB to provide administrative support for MX management personnel.

QUESTIONS SUBMITTED BY SENATOR J. JAMES EXON, ANSWERS SUPPLIED BY MR. PERRY J. FLIAKAS, DEPUTY ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND HOUSING)

Senator EXON. Mr. Fliakas, with respect to the attached correspondence between myself and National Guard Bureau officials, do you anticipate any unforeseen difficulty in funding these two projects during the earlier time frames which I have indicated, providing that the Congress adds the appropriate funds to the Administration's Guard and Reserve military construction request?

Answer. It is not anticipated that there will be any difficulty which would prevent the award of construction contracts for the Unit Training Equipment Site (UTES) at Mead, Nebraska, in fiscal year 1982 and for the training site facilities at Hastings, Nebraska, in fiscal year 1983, provided congressional authorization and funding are made available. An Architect/Engineer Contract for the UTES is currently being reviewed by the National Guard Bureau and it is expected that it will be approved prior to the end of April, at which time the

State can start the design process. Since it normally takes only 6 to 9 months for preparation and review of a design for a project of this type, ample time should be available for award of a construction contract prior to the end of fiscal year 1982. With regard to the Hastings Training Site, the National Guard Bureau has notified the State that an increase in sizing to 300 persons is appropriate, and submission of programing documents by the State is anticipated in the near future. Upon approval of these documents, design authorization can be provided. Although preparation and review of the design of a more complex project, such as this training site, may take more than the 6 to 9 months indicated for the UTES, completion of the design and award of a construction contract during fiscal year 1983 should not be a problem.

Senator EXON. Mr. Fliakas, on December 11, 1980, I wrote to then-Secretary of the Army Alexander regarding deplorable conditions at the Army Reserve Center in Omaha, Nebraska. My letter requested that the Army Department provide me with a plan to either significantly renovate the existing Center or build a new one by March 1, 1981. I have received several interim responses to my letter, the last one stating that engineering feasibility studies and cost estimates should be ready by early May instead. Would you update me on the progress of these studies and provide a firm date by which I will receive them?

ANSWER. U.S. Army Forces Command prioritizes, plans and programs for both its new and renovation Reserve projects into a consolidated Five Year Plan each January. This process recognizes and ranks the priorities for all projects according to their support for mobilization, training and maintenance of their housed units on a national basis and reflects the unit's ability to meet the minimum established standards for strength and other criteria. No project is currently proposed for either new or renovation of facilities in Omaha through fiscal year 1987. The current engineering feasibility study by the Kansas City District, Corps of Engineers is scheduled for completion and submission to the Army chain of command for review and evaluation on April 28, 1981. A copy will be furnished to you at this time. The Army review and ultimate recommendation on the preferred course of action for Omaha, if favorably considered, will result in a project being included in a appropriate future fiscal year or backlog of the January 1982 FORSCOM Five Year Plan.

Senator THURMOND. We will adjourn now and reconvene at 9 a.m. tomorrow morning with the Army.

[Whereupon, at 10:45 a.m. the hearing was adjourned, to reconvene at 9 a.m., Wednesday, April 8, 1981.]

MILITARY CONSTRUCTION AUTHORIZATION, FISCAL YEAR 1982

WEDNESDAY, APRIL 8, 1981

U.S. SENATE,
SUBCOMMITTEE ON MILITARY CONSTRUCTION,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

ARMY PROGRAMS

The subcommittee met at 9:10 a.m., in room 212, Russell Senate Office Building, Senator Strom Thurmond, chairman, presiding.

Present: Senators Thurmond and Hart.

Staff present: James C. Smith, professional staff member; and Marie Fabrizio Dickinson, staff assistant.

Also present: Paul Schreiber, assistant to Senator Denton; Robert Nichols, assistant to Senator Jackson; Frank Krebs, assistant to Senator Cannon; Greg Pallas, assistant to Senator Exon; and Bill Shore, assistant to Senator Hart.

OPENING STATEMENT BY SENATOR STROM THURMOND, CHAIRMAN

Senator THURMOND. The hearing will come to order.

This morning we continue our hearings on S. 834, the fiscal year 1982 military construction authorization bill.

Appearing before the subcommittee for the first time is Brig. Gen. Norman Delbridge, the Assistant Chief of Engineers. We welcome you here, General.

I note that the Army's request for new construction authorization for fiscal year 1982 is for just less than \$850 million and that over half of your authorization request is for construction outside the United States. We will get into details of your programs in a few moments.

Let me first cover a few "ground rules." We are in open session and I would hope to conduct most of the session unclassified. If we get into classified matter—and I look to you, General Delbridge, to let me know any time we get into classified material—we will take a short recess and go into executive session.

General DELBRIDGE. I will, Mr. Chairman.

Senator THURMOND. There will be questions to be answered for the record and I ask that you be attentive to getting responses back as soon as possible. Any member who has questions for the record may file them by 5 p.m. today and I ask you, General Delbridge, to get written responses back to the subcommittee within 7 days.

General DELBRIDGE. You have my assurance that they will be back in that time frame, Mr. Chairman.

Senator THURMOND. General Delbridge, I welcome you before the subcommittee. Please introduce those supporting witnesses that you have with you, tell us a little about your background, and then you may proceed with your statement.

STATEMENT OF BRIG. GEN. NORMAN G. DELBRIDGE, JR., ASSISTANT CHIEF OF ENGINEERING, OFFICE OF THE CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY; ACCOMPANIED BY ALLEN M. CARTON, CHIEF, PROGRAMING DIVISION, OFFICE OF THE ASSISTANT CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY; COL. NEAL H. WALLS, COMMANDER, HEALTH FACILITIES PLANNING AGENCY, OFFICE OF SURGEON GENERAL, DEPARTMENT OF THE ARMY; LT. COL. EDWARD M. JANSEN, PROGRAMING DIVISION, OFFICE OF THE ASSISTANT CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY; MICHAEL HALLA, ENVIRONMENTALIST, FORT CARSON, COLO.; WILLIAM CRONIN, LEGISLATIVE AFFAIRS, REAL ESTATE DIVISION, OFFICE, CHIEF OF ENGINEERS

General DELBRIDGE. Thank you, Mr. Chairman.

I am pleased to appear before this subcommittee for the first time. My previous assignments have been in the engineering side of the Corps of Engineers, as District Engineer, Pittsburgh. I have been Division Engineer for the European Division, and most recently for the South Pacific Division. I have had the usual engineer command assignments, Mr. Chairman, most recently with the 3d Armored Division in Germany.

Accompanying me at the table today are Mr. Allen Carton on my right who is no stranger to this subcommittee. Mr. Carton has appeared with the principal witnesses for the Chief of Engineers for a goodly number of years. Mr. Carton is the Chief of our Programing Division, Office of Chief of Engineers.

To my left is Lt. Col. Mark Jansen of my office.

Mr. Chairman, I would like to submit my formal statement for the record and present to you an overview of the Army's 1982 program.

Senator THURMOND. You may proceed.

General DELBRIDGE. Thank you, sir.

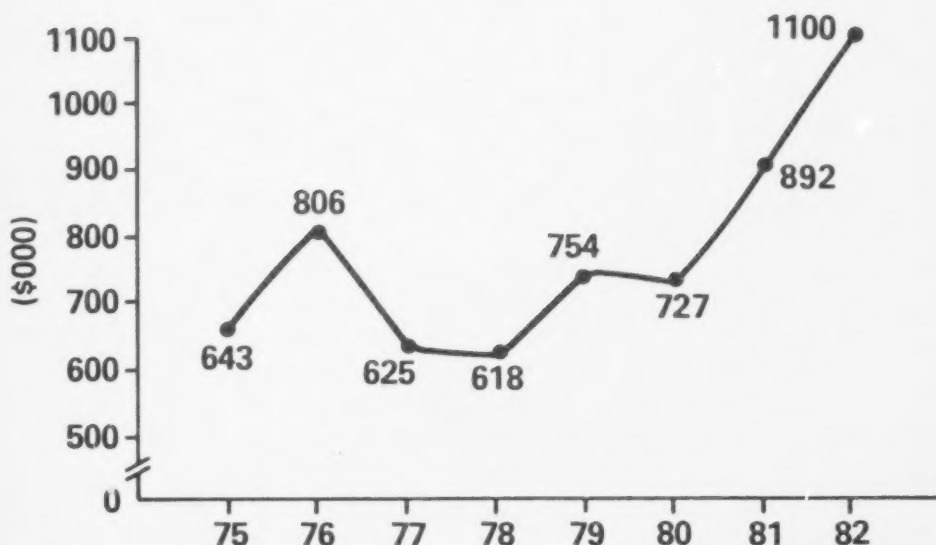
Senator THURMOND. We will place your entire statement in the record and you may brief it as you determine it advisable.

General DELBRIDGE. Yes, sir.

The fiscal year 1982 MCA budget request includes a request for total obligational authority of \$1,099,700,000 and a companion request for authorization of \$849,616,000.

The authorization request includes approximately \$49 million for 21 ammunition facilities which are funded under the Defense Appropriation Act. The ammunition facilities are in the continental United States and include projects such as renovation of heating plant, pro-

MCA FY 75-82



duction line modernization, and energy conservation. The authorization request does not include \$149 million of general authorization for planning and design and access roads or \$151 million of construction projects which have already been authorized by the Congress in prior years.

As you will note, from fiscal year 1975 through fiscal year 1980 there was essentially a decline in the MCA program. That trend was reversed in fiscal year 1981, and the fiscal year 1982 program continues the upward trend. I will briefly touch on the significance of this in a moment.

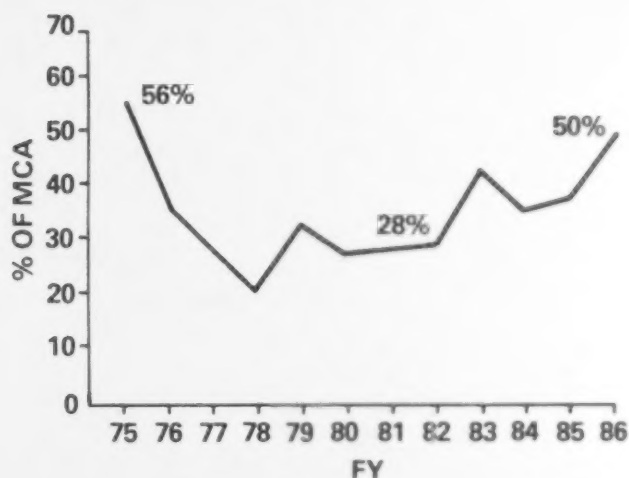
As in 1980, the Army's objectives continue to be to organize, man, equip, train, sustain, mobilize, and deploy the force. The fiscal year 1982 MCA request is driven by and fully supports these objectives.

MCA backlog (fiscal year 1982)

	Millions
New mission.....	\$1, 727
Current mission.....	5, 398
Plant replacement.....	9, 202
Total	16, 327

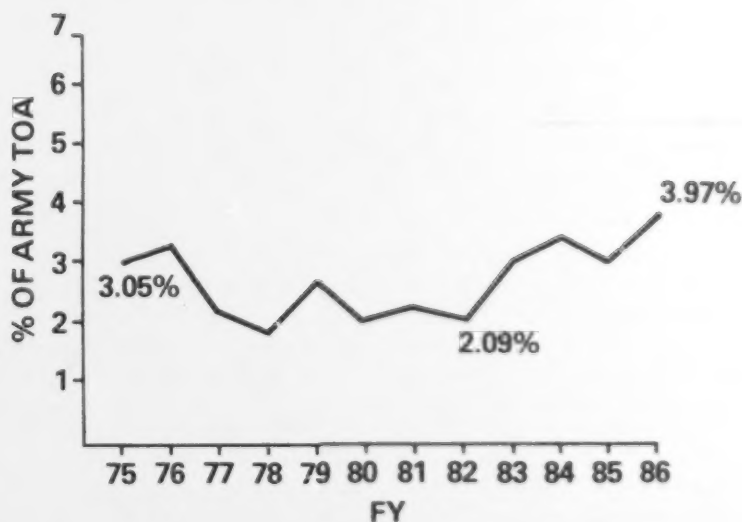
There is another factor that drives the size and scope of the MCA program. Let me show you briefly the importance that the backlog of plant replacement and modernization has on the MCA program. You will note that our current backlog of over \$16 billion through fiscal year 1982, broken down into current and new missions, also includes plant replacement of \$9.2 billion.

PLANT REPLACEMENT/ MODERNIZATION % OF MCA



This is better illustrated if we note that the past 7 years has seen a decline in the plant replacement program due to the surge in mission requirements, with a parallel increase in the backlog of facilities exceeding their useful life. The dilemma has been recognized, however, and the current Army 5-year plan calls both for a significant increase in the plant replacement share of the MCA program and an increase in the MCA share of the Army's total overall obligational authority (TOA).

MCA % OF ARMY TOA



In the current request, if you will note on the third line, 28 percent will go for replacement and modernization of the Army's aging inventory of facilities. This should be higher, particularly overseas, but represents a calculated balance of many competing authorities for the Army's limited resources.

FISCAL YEAR 1982 MCA BY MISSION

	Percent	Amount (millions)
New mission.....	29	\$249
Current mission.....	40	339
Replacement/modernization.....	28	234
Exigent minor.....	3	28
General authorization.....	0	0
Total request.....	100	850

The Army program can be viewed in two ways: geographically structured by major commands (or MACOMs) or grouped functionally into facility categories. However, it is the MACOM commander with broad program guidance who determines the priority needs of his soldiers and their families and recommends allocation of his scarce resources. In the continental United States we have development and readiness command (DARCOM), forces command (FORSCOM), and training and doctrine command (TRADOC). Overseas we have U.S. Army Europe (USAREUR), and 8th U.S. Army (EUSA) in Korea.

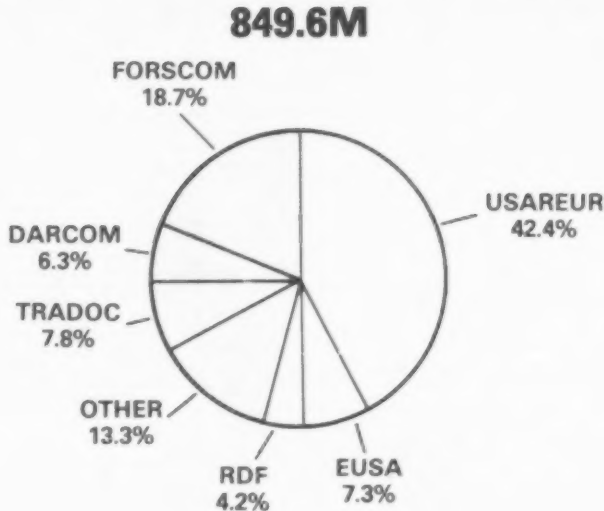
FISCAL YEAR 1982 MCA PROGRAM BY GEOGRAPHIC AREA

	Percent	Amount (millions)
Forward deployed.....	53.9	\$457.9
CONUS.....	32.8	278.7
General authorization and other.....	13.3	113.0
Total.....	100.0	849.6

When the fiscal year 1982 MCA request is considered by geographic areas or major commands, the construction projects outside the United States account for \$457.9 million or about 53.9 percent of the budget request.

The percent distribution of the construction for the major commands is shown on this chart.

CONUS vs OVERSEAS



When we look at the fiscal year 1982 MCA program broken down by the various facility categories, the distribution of the program looks like this.

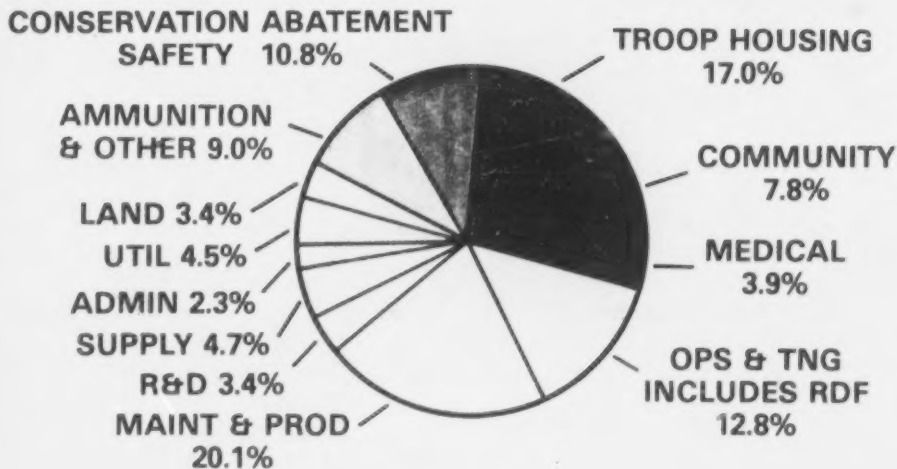
FY 82 MCA FACILITY CATEGORIES

QUALITY OF LIFE	{	TROOP HOUSING
		COMMUNITY
		MEDICAL
FORCE READINESS	{	OPS & TRNG
		MAINT & PROD
		R&D
		SUPPLY
		ADMIN
		UTILITIES
		LAND

NATIONAL PRIORITIES — ENVIRONMENT/ENERGY/SAFETY
AMMUNITION & OTHER

I have further grouped these categories into broader areas of emphasis, that is, quality of life, force readiness, national priorities, ammunition, and other. A more graphic picture by percentage is shown here.

FY 82 MCA (849.6) BY FACILITY CATEGORY



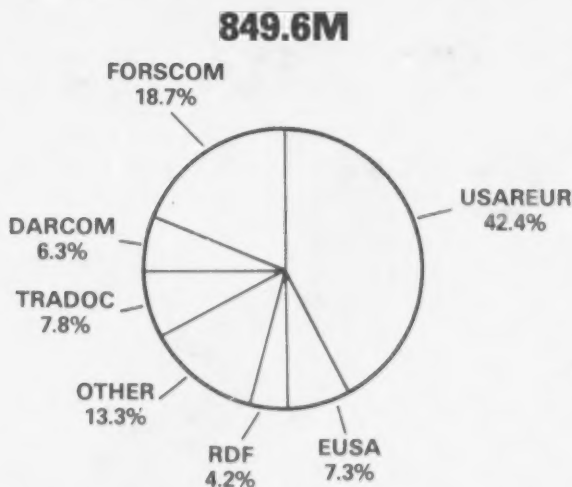
If you will note the quality of life area shown in red accounts for about one-third of our program with just over another 50 percent for force readiness. Let me discuss the programs in some detail, first by major commands starting with U.S. Army, Europe.

USAREUR PROGRAM

Our program for U.S. Army, Europe totals \$360,360,000. It is the largest slice at 42.4 percent, and rightfully so since 26.5 percent of our Army is always forward deployed to Europe. It may also be considered, as you have already heard, a 35 year deployment, done 1 year at a time, with consequently greater needs in the MCA, RPMA and family housing areas. In relation to the overall requirements, it is an extremely austere program. The program for USAREUR is the result of a careful sifting of requirement by the Commander in Chief, Europe, DA and OSD, for a changing force structure to meet the threat and provide, to the limit of our resources, improved and desperately needed facilities for our troops.

Mr. Chairman, as I indicated yesterday, last year Congress advised the Army that USAREUR's [deleted]. Since I provided the details of the [deleted] yesterday, I will only mention that as part of our planning we have included \$18 million in the amended 1982 program to initiate [deleted] construction and demonstrate commitment to

FY 82 MCA BY MACOM



proceed. We plan to recoup these funds once the program is under way. All other projects in the fiscal year 1982 program although not a part of the [deleted] are compatible with the plan.

USAREUR MCA AND NATO PROGRAMS
[In millions of dollars]

Fiscal year	NATO infrastructure funding	MCA funding
1965-77.....	114.8	388.74
1978.....	57.8	171.7
1979.....	16.8	199.5
1980.....	283.3	109.0
1981.....	¹ 277.5	189.5
1982.....	¹ 200.5	360.4

¹ Estimate.

The Congress has urged the Defense Department and the Army to seek increased NATO funding as well as host nation and other forms of support. As you will note the Army's share of the 1980 NATO program has increased tenfold over the previous 5 years. This level continues in the proposed 1981 and 1982 NATO infrastructure programs for projects such as these storage facilities for prepositioned military equipment and other operational projects which meet the mutually agreed upon NATO infrastructure funding criteria.

HOST NATION SUPPORT (CONSTRUCTION) ARMY SHARE

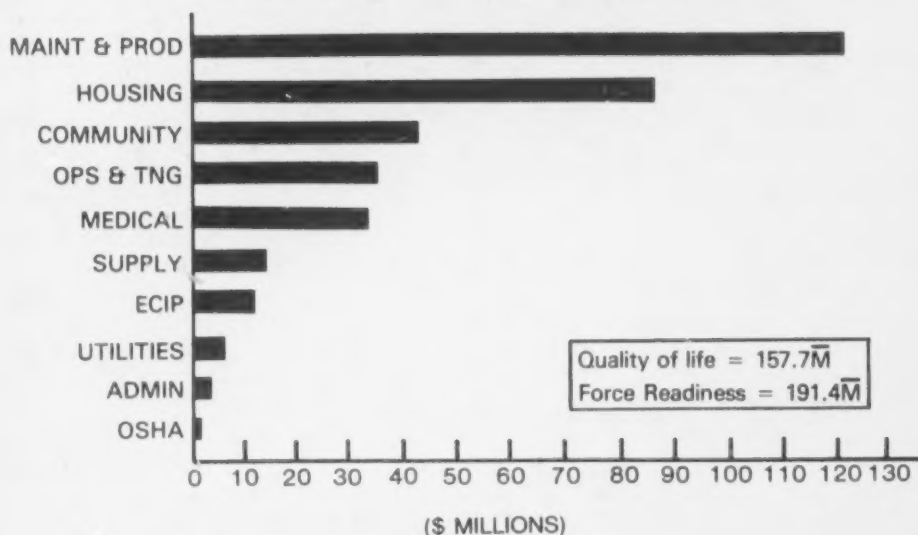
	Deutsche marks (millions)	U.S. dollars ¹ (millions)
MOUSF 1971.....	576.4	288.2
MOUSF 1974.....	503.2	251.7
Garltedt 1976.....	171.2	85.6

¹ Dollars computed at \$1=2.00 deutsche marks.

Similarly, successful negotiation over the past several years has resulted in Federal Republic of Germany contributions to our stationing, particularly in improvements to the old kasernes occupied by our soldiers, as well as the model for future construction in Garlstedt where we located our northern brigade recently.

The scope of the USAREUR fiscal year 1982 MCA program by facility categories is shown here. Again note the amount dedicated to quality of life and force readiness.

FY 82 MCA USAREUR FACILITY CATEGORY



There is a large construction requirement to replace old, functionally inadequate facilities such as the mess hall, as well as, maintenance shops, and utilities systems. Over the years, initiatives to modernize our forces have filled available facilities to the brim exacerbating much of the already deplorable living and working conditions. Accordingly present and future modernization initiatives will invariably require new construction.

USAREUR has developed a multiyear range upgrade program at the three U.S. controlled major training areas, Grafenwoer, Vilseck, Hohenfels. The fiscal year 1982 request for \$20.8 million will modernize and improve the ranges to provide full and realistic training on the improved weapons being deployed to Europe in the next 5 years. The ranges are old, and are not configured to permit training to the full capabilities of the new systems now coming on line. Such as the new M-1 tank.

In its review of the fiscal year MCA program, Congress directed the Army to seek eligibility for NATO funding of future range improvements at major training areas with the provision that the United States retain control of the range management. The Army has initiated action to accomplish this even though national control normally implies national funding responsibility. The NATO infra-

structure program for the current 5-year period, 1980-84, is presently oversubscribed with high priority projects already eligible for funding. Therefore, even if eligibility is approved by NATO—including retention of U.S. control—funding for construction of these range upgrade projects cannot be reasonably expected until 1985-88. This would unacceptably and dangerously delay achieving the training and readiness permitted by these projects. Accordingly, MCA funding is again requested. The projects are being covered by precautionary prefinancing statements to NATO to protect U.S. rights for recoupment from NATO should it accept responsibility for funding under the conditions defined by Congress.

The USAREUR program contains \$13.390 million for ammunition basic load projects to support introduction of the new weapon systems. The ammunition program is jointly funded with NATO. NATO funds the major storage facilities, those designed for war reserve ammunition requirements until resupply can be established; funding responsibility for unit basic load storage facilities, however, remains a national responsibility for all of the NATO nations.

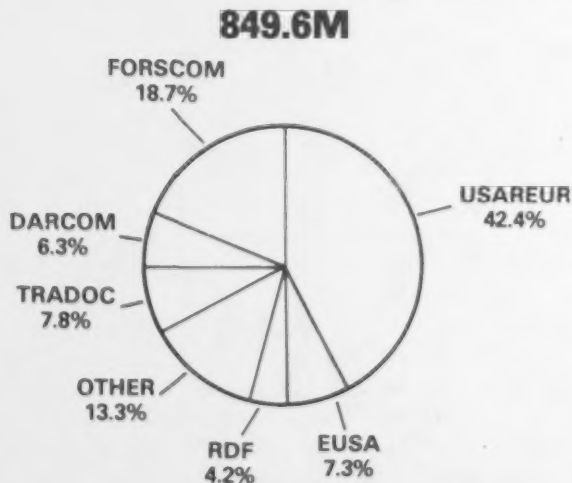
TURKEY

Included in the program is \$20.8 million to improve the substandard living and working conditions of our soldiers stationed at remote sites in Turkey. These sites were constructed to austere standards in the mid-1960's and have deteriorated since that time. The barracks are overcrowded, have inadequate utility systems, and lack recreational facilities.

KOREA/PROGRAM

The Army is continuing to support its commitment in the Western Pacific with a \$62.3 million fiscal year 1982 MCA request in support of the 8th U.S. Army in Korea. This represents 7.3 percent of our total request.

FY 82 MCA BY MACOM



This investment will continue the countrywide replacement of deteriorated utilities and temporary metal quonset buildings, which have long since exceeded their useful life. The intent is to replace these quonsets with decent but austere semipermanent construction.

FY 82 MCA MIDDLE EAST

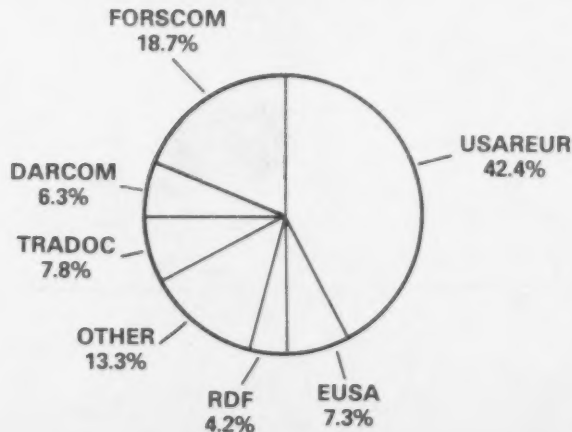


RAPID DEPLOYMENT FORCE

The present Army requirements for Southwest Asia are for two intermediate staging bases; one at Ras Banas, Egypt and a second at a location yet to be determined. Ras Banas is to be a joint U.S. Air Force and Army facility that can accommodate a force which could deploy in or out by either air or sea. Additionally, the site would store prepositioned stocks of petroleum products and ammunition. Additional details on this project can be made available during a closed session of this committee, if you desire.

FY 82 MCA BY MACOM

849.6M



CONUS

Moving now to the continental United States, our budget request for the CONUS major commands this year identifies \$278.4 million in construction representing approximately 32.8 percent of our program.

Fiscal year 1982 MCA training

	<i>Millions</i>
National Training Center.....	\$43.8
Fort Carson land acquisition.....	29.0
Total	72.8

Fort Irwin, Calif. and Fort Carson, Colo. are scheduled for the largest installation level investment as shown. I will discuss the requested construction at these installations in a moment.

Fiscal year 1982 Conus MCA unit activation short falls

	<i>Millions</i>
Fort Drum, N.Y.....	\$15.2
Fort Stewart, Ga.....	28.5
Fort Hood, Tex.....	15.9
Total	59.6

Unit activation shortfalls are the principal driving force behind the requirements at Fort Drum, Fort Stewart, and Fort Hood. Our \$53.3 million request for the development and readiness command (DARCOM) installations, is dominated by modernization projects and those projects that support statutory and regulatory compliance.

PROGRAM HIGHLIGHTS

Let me now present a brief overview of the key elements of our construction program.

FORCE MODERNIZATION

As part of its force modernization, the Army will receive in the 1980's a number of new weapons and other systems which, together with organizational changes and doctrinal modifications will have a profound collective impact on Army facilities. These facilities requirements in fiscal year 1982 account for \$156.85 million of our fiscal year 1982 request.

The introduction of the Patriot missile system is supported by U.S. conjunctive funding with NATO, of projects totaling \$42.24 million. This is funding for the U.S. share of facilities whose criteria is beyond that allowed by NATO infrastructure agreements. The NATO portion of construction funded for this project is \$41 million. All of these projects are in Germany and include barracks, basic load ammunition storage, and tactical equipment repair shops.

ROLAND

Eleven projects totaling \$30.7 million have been added to the fiscal year 1982 MCA program in support of the Roland weapon system. One project for construction of a training facility is scheduled for Fort Bliss, Tex., at \$4.7 million. The remaining 10 projects, all in Germany,

total \$26 million and will provide maintenance shops, tactical equipment shops, ammunition igloos, and a barracks building to support Roland.

Eleven military construction projects totaling \$19.8 million support the Army's multiple launch rocket system. Six of the projects are scheduled for Germany and five for locations in the United States. These projects include barracks, ammo storage, tactical equipment shops, and a training facility for the system. Fourteen projects valued at \$38 million support the equipment and organizational changes attendant to activation of combat electronic warfare intelligence (CEWI) units. These units will include improved airborne sensor systems. The projects are all located in Germany and consist of barracks, helipads, aircraft maintenance shops, tactical equipment repair shops, and training facilities. Finally, projects totaling \$26.1 million will provide two training simulators for the Stinger, a hand-held anti-aircraft system; a range complex for the Abrams tank; and a range complex for the infantry and cavalry fighting vehicle system, both at Grafenwoer, Germany; and facilities for the remotely piloted vehicle system consisting of training facilities at Fort Sill, Okla.

QUALITY OF LIFE

The Army's quality of life program addresses critical facility shortfalls throughout the Army and is oriented toward fostering improved morale and welfare and individual readiness and retention, and includes medical, troop housing, and community facilities totaling \$244.1 million, just under a third of our fiscal year 1982 construction program.

Fiscal year 1982 MCA program highlights

Quality of life:	Millions
Medical	\$33.4
Troop housing	144.5
Community	66.2
Total	244.1

MEDICAL FACILITIES

Here is a summary of the requirements for medical facilities which total \$33.4 million. Included are: The modernization of the Frankfurt Hospital and limited renovation of health facilities at Fort Irwin, Calif.

TROOP HOUSING

The Army is vitally concerned with adequately housing its unaccompanied personnel. Some of the housing requirements were already highlighted in the discussion on Korea, Turkey, U.S. Army Europe, as well as existing requirements in CONUS. The fiscal year 1982 budget requests \$144.5 million for unaccompanied personnel housing.

COMMUNITY

This year's budget request includes \$66.2 million for community facilities worldwide. These include 12 gymnasium and physical fitness

centers, community support facilities, recreation center and library, and fire station. The Army considers the community facilities a vital asset in improving manpower retention.

MAINTENANCE AND PRODUCTION

To improve the equipment readiness of the Army we have identified \$170.3 million of the construction request for maintenance and production facilities. This will address some of the deplorable working conditions, particularly overseas, where our soldiers must maintain increasingly sophisticated weaponry.

TRAINING

In the area of training we are requesting \$72.8 million for two major projects which address a concept of training geared to the modern battlefield, the National Training Center at Fort Irwin, Calif., and acquisition of training land at Fort Carson, Colo. The fiscal year 1982 MCA request for Fort Irwin includes 10 projects for a total of \$43.8 million. It includes barracks, family housing, maintenance and utilities facilities. The National Training Center will provide our combat battalions with advanced and realistic tactical training short of actual combat.

Although Fort Irwin has many facilities that will reduce the cost of establishing the NTC, Army planning to date has identified approximately \$143 million in military construction from fiscal year 1982 to fiscal year 1986.

The \$29 million at Fort Carson, Colo., is for badly needed land acquisition for expanded home station training facilities for the 4th Mechanized Division.

ENERGY CONSERVATION/POLLUTION ABATEMENT/SAFETY

And finally, we are requesting for the Army's energy conservation/pollution abatement/safety programs \$92 million.

ARMY ENERGY PROGRAM

The fiscal year 1982 energy conservation investment program (ECIP) consists of 42 projects at a cost of \$70 million. They range from simple weatherstripping to the sophistication of control and monitoring solar heating and heat recovery systems building such as this at Fort Hood. During last year, ECIP projects throughout the Army achieved a 4.76-percent energy consumption reduction.

ARMY ENVIRONMENTAL PROGRAM

As a result of our earlier efforts in meeting the requirements of the Clean Water and Air Acts the size of the fiscal year 1982 program is the smallest since fiscal year 1969. The budget for fiscal year 1982 totals \$11.3 million.

ARMY SAFETY PROGRAM

Our fiscal year 1982 MCA request in support of the Army safety programs consists of 15 projects at a cost of \$11.1 million for the elimination of OSHA deficiencies. The Army's program has given priority to correcting the most serious hazards, such as these exposed steam lines. It is our goal to correct through construction and repair all identified unhealthy or unsafe conditions classified as catastrophic or critical hazards, that is, risk assessment codes 1 and 2, not later than fiscal year 1984.

SUMMARY

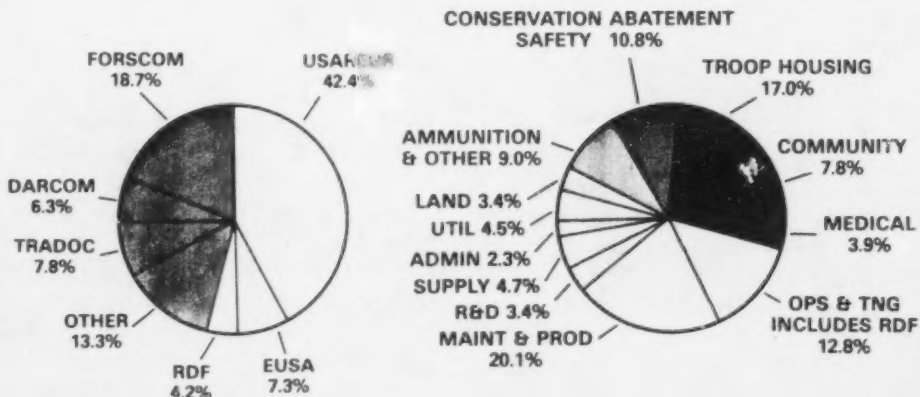
Mr. Chairman, in summary, I would like to emphasize that our fiscal year 1982 MCA budget request reflects the Army's objectives and the priorities stemming from the field commanders.

Army objectives

	Percent
Organize and man the force-----	43.8
Equip and train the force-----	12.0
Sustain the force-----	25.3
Mobilize and deploy the force-----	6.2
National priorities-----	12.7

It is a balanced program consistent with fiscal realities which provides our soldiers decent modern and functional facilities which contribute to fulfilling acceptable standards of quality of life and force modernization. Proposed construction projects I have outlined in this brief overview will support required improvements in the Army's ability to recruit, maintain, and sustain the force and accomplish its assigned mission. At the same time, however, the manifest needs to improve the life cycle management of our inventory of aging facilities is unchallenged; and plant replacement and modernization are cornerstones of the 5-year program.

FY 82 MCA PROGRAM



Sir, this concludes my statement. I would be pleased to answer any questions or arrange for their insertion in the record.

MCA PROGRAM SIZE

Senator THURMOND. Thank you, General Delbridge.

Let us discuss the size of your program for a moment. Last year you were authorized, I believe, \$879.5 million. Is that correct?

General DELBRIDGE. Yes, sir, that is correct.

Senator THURMOND. Your request this year is for \$849,616,000.

General DELBRIDGE. That is correct also.

Senator THURMOND. You are taking a real decrease while the total military construction authorization, less family housing, is going up by 40 percent. Are you satisfied with the Army's share of this fiscal year 1982 request?

General DELBRIDGE. Mr. Chairman, the authorization was \$30 million less but the appropriation increase this year was about \$240 million. This stems from the fact that the requested funds for previously authorized projects were not appropriated and consequently we are seeking funding this year with a corresponding reduction in the authorization request. But the program is going upward and we are satisfied with that upward trend, Mr. Chairman.

Senator THURMOND. How do you explain a decrease in your construction budget when all the services are experiencing significant increases?

General DELBRIDGE. I am not sure I understand your question, Mr. Chairman. Our budget request for appropriation for the 1982 program is going up rather substantially and we are quite pleased with that. It is \$240 million, approximately. We have a number of projects, for example, Mr. Chairman, the Fort Carson hospital at over \$80 million which was previously authorized in the 1981 program and consequently we are seeking \$80 million this year for that project although the authorization does not reflect that increase. We have a number of others.

Senator THURMOND. You are satisfied then with the request you are making.

General DELBRIDGE. Yes, sir, we are.

CONSTRUCTION BACKLOG

Senator THURMOND. What is your current backlog of military construction?

General DELBRIDGE. Sir, the Army's total backlog in military construction now is estimated at \$16.3 billion.

Senator THURMOND. Yesterday, Mr. Fliakas gave us some background figures for the Defense Department. How does your backlog compare with the backlog of the Navy?

General DELBRIDGE. Our backlog is somewhat larger than theirs. I mentioned the Army backlog is \$16.3 billion. The Navy has a backlog of \$12.5 billion. The Air Force about \$9 billion. We feel the difference is substantially due to our overseas deployment since the major portion of that \$16.3 billion reflects the deteriorated facilities in Europe.

Senator THURMOND. Last year your predecessor, General Read, told the committee that he needed an annual construction program of \$2 billion to adequately address the Army backlog. In your view, how big should the Army's annual construction program be?

General DELBRIDGE. We have looked at that again, Mr. Chairman. We feel that at the time of General Read's comment the \$2 billion was accurate. As we see it now, we feel that an MCA investment of approximately \$2.4 billion in fiscal year 1982 dollars would be accurate.

OVERSEAS CONSTRUCTION

Senator THURMOND. Of your total program how much is for overseas construction?

General DELBRIDGE. Our total overseas budget, Mr. Chairman, is \$457.9 million and that represents 53.9 percent of our budget request to the Congress this year.

Senator THURMOND. How do you justify more than half your program being spent overseas and what portion of your total backlog is for overseas requirements?

General DELBRIDGE. Sir, about 40 percent of our backlog is overseas. We feel that the principal reason for the backlog is the deficiencies in funding which occurred during the Vietnam years and also the delay in construction while the decision was being made whether or not to retain the 2d Infantry Division in Korea. We are really playing catchup now, Mr. Chairman. That is what accounts for that big backlog.

There is one other factor of course and that is the facilities that we are in, particularly in Europe, are reaching the end of their useful lives just about all at the same time in these current years.

FORT CARSON LAND ACQUISITION

Senator THURMOND. Senator Hart is here. I am going to yield to him for any questions he may have.

Senator HART. Mr. Chairman, thank you very much.

General, welcome to the committee.

One of the principal areas of concern in the State of Colorado, as I am sure you know, has to do with the proposed land acquisition proposal for Fort Carson and I think you could provide a valuable service to those who have been most concerned about that, if you would, by your responses to a number of questions having to do with that proposal. According to present Army training doctrine, how much land area do you believe will be necessary to adequately train a mechanized brigade and effectively perform all current Army training and evaluation programs, maneuver, for armored units in a facility such as Fort Carson?

General DELBRIDGE. Senator Hart, in answer to your question, we look at the total number of activities that a combat battalion should accomplish during their training tests and there are eight of them. Each of them requires a specific number of acres. The most severe is the delay, which is perhaps the operation we would face in Europe. That maneuver requires over 83,000 acres to accomplish.

Senator HART. What in the judgment of the Army is the maneuver land shortfall at Fort Carson?

General DELBRIDGE. At the present time, Senator, we have approximately 22,000 acres available for training at Fort Carson. Of the eight Army training test missions the only one that can be accomplished on

the current scale of requirements is the battalion in the hasty attack, which will fit on the current land. Accordingly, there is a severe requirement for the other seven which all escalate up to the maximum requirement of 83,000 acres.

Senator HART. My understanding is that the Army is requesting authorization of 200,000 to 250,000 acres if my recollection serves me properly. The discrepancy between 83,000 and that number has to do, as I understand the proposal, with the necessity of rotation of the training areas so that training operations are not conducted constantly on one area of land but rather rotate over four or five areas roughly the same size. Is that not correct?

General DELBRIDGE. Yes, sir, it is. The difference between the 83,000 and 250,000 acres represents that amount of land which permits rotation in order to restore itself environmentally. Accordingly, specific portions of the land being requested would be utilized for a 3-year period for 4.7 months of the year and then allowed to rest for 2 years before it would be utilized again. There are five different sections designated within the parcel being looked at to accommodate the planned rotation.

These then would be rotated to achieve that kind of resting for environmental recovery that we feel is essential.

Senator HART. One of the most important aspects of the Army's proposed acquisition of the so-called Pinion Canyon site which is east of the Trinidad area is a commitment to incorporate specific environmental protection measures in the management of the land on the site. Can you outline for the committee the proposed land use management plans that will be followed in the protective management of that parcel? I think you have gone in that direction with your previous answer.

General DELBRIDGE. Yes, sir, we propose to address the possible salinity intrusion, and how the land would recover. But I would like to call on Mr. Halla, who is an environmentalist at Fort Carson, who has been specifically involved in preparing this recovery plan, and ask him to elaborate on that answer.

Senator HART. That will be very helpful.

STATEMENT OF MICHAEL HALLA, ENVIRONMENTALIST, FORT CARSON, COLO.

Mr. HALLA. My name is Michael Halla, environmental director at Fort Carson.

ENVIRONMENTAL ISSUES—FORT CARSON LAND ACQUISITION

The environmental impact statement for this project addresses all the litigation measures in much detail. I will summarize them by relating the fact that the prime environmental protection management plan involves rotation and rest of the area on a routine basis for revegetation purposes. In addition to that, of course, the intensity of training is critical. We have developed a carrying capacity for the various range sites in Colorado to handle military training. Our computations show we can train on that area 5 months of the year.

In addition, we would rest the entire parcel during three critical growing season months, April, May, and June, every year so that the 5 months that we do use it would not occur during that growing season time. In addition to that approach on protecting the vegetation, we have made significant commitments in the project to reduce the generation of dust particulates by graveling the unpaved roads. We will be accomplishing archeological surveys as required by regulations before we use the property. We will be doing extensive air, water, and noise monitoring to establish base lines and determine the effects, once our training begins.

SALINITY PROBLEMS

Senator HART. I want to ask you specifically about the salinity problem but before I do I have a question on particulates. In that region which is semiarid the local governments have had some problems with EPA on meeting background particulate level emission standards.

There is concern that training will drive those communities particularly as far as Pueblo above the standards for particulates and therefore deny the growth and new industry coming in. Could you address that problem and whether you believe the programs that the Army intends to undertake will solve that problem?

Mr. HALLA. Yes, sir.

The criticality of particulates was really a major factor at the alternate site that we were investigating which we refer to as the Huerfano River parcel. In fact one of the criteria for selecting this site over the Huerfano River parcel was the lack of a particulate problem because of its remoteness. Pueblo is designated as a nonattainment area for particulates. There are no urban areas in the vicinity of the Pinon Canyon site so designated. Our check of the particulate level of the parcel shows in the nearest large community near Trinidad there would be an increase under worst conditions of 1.6 micrograms per cubic meter. This is insignificant in the planning that EPA and the State of Colorado undertake to evaluate projects.

Even at the border of the property in the small communities that neighbor it, the impact is considered to be insignificant with a maximum increase of 5 to 5½ micrograms per cubic meter over the background level that occurs.

Senator HART. Can you envision any set of circumstances in which the particulate emissions escaping from the parcel could be of such a level that it would impede local economic growth, location of new industry or whatever?

Mr. HALLA. No, sir, none at all because in our projected dispersion calculations there would be no anticipated violation of even the secondary particulate standard within the State of Colorado or the Federal standard.

Senator HART. You would be willing, I am sure, the Army would be willing to work with the State and local officials, the Federal delegation and others and the EPA, to solve any problems of that sort that might arise?

Mr. HALLA. Yes, sir, we are certainly committed to that. In fact, we have responded formally in the final environmental impact statement at the request of Governor Lamm to establish a technical advisory

committee to assist us in reviewing the routine use and management of that property.

Senator HART. Would that committee have EPA representation?

Mr. HALLA. Yes, sir.

SALINITY—ARKANSAS RIVER

Senator HART. Let me ask you about the salinity issue. One of the concerns on the part of constituents in that area is that the activities on the Pinon Canyon site might lead to a significant increase in water pollution, particularly salinity in the Arkansas River. What specific measures will the Army take to reduce any significant increase in the salt loading of the Arkansas River?

Mr. HALLA. Well, sir, to begin with there are several points that need to be made with regard to the potential for salinity increases. We predict that we will not experience a problem with significant increases in salinity from using that property. That prediction is based on our experience at Fort Carson over the last 20 years of mechanized training. We find in studies at Fort Carson that because of the sporadic impact of training, and by that I mean certain areas, certain types of terrain are used very intensively for military training, areas that provide cover, but adjacent areas that don't provide cover are used sparsely. Therefore the overall effect on soil erosion at Fort Carson has been shown through our studies to be no more significant than other types of range use. So that although we have severe soil erosion in some intensive-use areas, there is a reduction in soil erosion in the areas that aren't used so that the overall effect on soil erosion remains average.

So, our soil sedimentation loss is no greater than other range sites throughout the front range of Colorado. Based on that fact we predict that salinity increase will not be significant because it is directly related to the amount of soil losses we have. The dissolvable salts in the soil are actually the cause of the salinity in the Arkansas River. The only study that has been done on salinity in the Arkansas River was done by EPA in coordination with the Colorado State University. Their conclusion was that the problem of salinity in the Arkansas River is due to the use of the water in the river as opposed to loading of salts. That is, as you consume the water the salt is retained in the river in a much lower quantity of water, so the concentration increases. They discounted the fact of the initial salt loading.

However, if through our monitoring program we find that our predictions are wrong, there are methods we can take to assure we protect the Arkansas River. We estimate 20 percent of the Pinon Canyon parcel will have soils of high saline content that we will have to monitor in detail to insure that the contribution from those watersheds is not excessive.

If it turns out to become excessive, we can in fact install erosion control dams that would be lined so that the salts would not travel or percolate through the soil and enter the drainage system. We can in turn augment the flow to insure downstream water rights through existing well systems of stock watering wells that we will not be using for anything except fire protection and wildlife uses and so forth.

Senator HART. It will be the Army's intention to take those steps if in fact the salinity problem did arise?

Mr. HALLA. Yes, sir.

Senator HART. Will this advisory committee also be concerned with the water quality as well as air quality?

Mr. HALLA. Yes, sir, we intend to have it encompass the entire range of environmental issues.

Senator HART. Thank you very much. That is very helpful. I may want to propound some more questions later on this matter.

LEGISLATION PROPOSALS—FORT CARSON LAND ACQUISITIONS

Senator HART. General, let me ask you some questions having to do with legislative proposals which I intend to make and get your response to them.

I intend at the present time to offer a couple of amendments, if you will, to the acquisition authorization. One would grant a 24-month deferral on capital gains tax to the land owners in the Pinon Canyon site once their land has been sold to the Army. The other would make Pinon Canyon land eligible for designation as so-called entitlement land under Public Law 94-565. With that designation local units of government would be eligible to receive Federal compensation for losses of tax revenues, a payment in lieu of taxes proposal. What would be the Army's position on each of these two proposals?

General DELBRIDGE. Senator, the two proposals would be somewhat beyond our capacity in the Army to address. I would like to ask Mr. William Cronin to address these two issues however. He is our real estate policy man and can best address this somewhat unique situation.

STATEMENT OF WILLIAM CRONIN, LEGISLATIVE AFFAIRS, REAL ESTATE DIVISION, OFFICE, CHIEF OF ENGINEERS

Mr. CRONIN. Senator, as far as the deferral of capital gains the Army would have no position on that. We would recommend that the Internal Revenue Service be consulted with respect to that proposal.

On the further amendment to include an active installation in payment in lieu of taxes feature, as you know, the statute now covers semi-active and inactive installations. We assume that your proposal would enlarge the act to include active installations.

Senator HART. At least this one.

Mr. CRONIN. The Army has no reason to object, sir.

Senator HART. So, it would be the policy of the Army as far as you are concerned either to take no position or to not object in both cases?

Mr. CRONIN. That is correct.

Senator HART. The IRS will play the key role in the capital gains issue.

Mr. CRONIN. Yes, sir.

Senator HART. If the IRS or any other Government agency or the White House or OMB were to contact the Army to see if you had any objections to either of those, your position so far as you know would be no objection?

Mr. CRONIN. No objection.

Senator HART. Thank you very much.

General, one final question. The Army has estimated that the maximum impact of the construction cost related to the development of this parcel over the next 3 years could exceed \$50 million. What specific efforts will you undertake or the Army undertake to comply with the provisions of the Federal procurement regulations to direct procurement efforts to labor surplus areas such as Pueblo and Huerfano Counties?

General DELBRIDGE. Mr. Chairman, our policy with regard to that aspect is to utilize the open bidding arena. In the area of design where we negotiate contracts, we give preference to local architect-engineering firms.

In construction contracting, however, except for the small business side of the House, the 8(a) construction, we normally follow open bidding procedures. The size of the projects that we envision here, would be somewhere in the neighborhood of \$38 million, and would undoubtedly include some small construction suitable for 8(a) or small business contracting. Consequently, these contracts would be most susceptible to be awarded to local business.

Senator HART. But you are cognizant of and would comply with the provisions in the Small Business Act that do direct certain percentages of contracts of this sort to socially disadvantaged firms?

General DELBRIDGE. Absolutely, sir.

Senator HART. I appreciate your response. These are all very critical issues, as you know. I support the Army's efforts to expand. I think it is necessary to train infantry divisions in mechanized warfare to increase mobility. You have my support. These are critical environmental and economic problems that the local areas face. I do intend, as I have indicated, to try to amend the authorization legislation in a couple of areas. Your cooperation in that respect, at least to the degree you have stated here today, will be very welcome.

I understand from Mr. Smith that you have completed your presentation. In the chairman's absence let me propound a couple of questions pending the chairman's return.

BARRACKS DESIGN

Senator HART. This committee, General, is getting increasing reports from field commanders that they have criticisms of the design of new barracks that are being built. They particularly cite problems of unit integrity and discipline. Has the Army or has your office been receiving the same kinds of criticisms and, if so, what is your response?

General DELBRIDGE. Yes, sir, there has been some criticism from the field commanders. The nature of that criticism is that in the Army's attempt to comply with what might be termed the All-Volunteer Army standard it has reduced in effect the first sergeant's ability to keep a finger on the troops, as we recall from the old days, but these issues are being addressed at the present time and within the next month we will reconfigure the Army Housing Committee, called the ARHOC committee, to restudy this. This committee will be under the supervision of the Deputy Chief of Staff for Personnel of the Army. It will include all the field commands as well as members of

the Army's staff to look again at what the design should be for our Army forces here and overseas.

Senator HART. It is my understanding that similar criticisms are being received concerning the large brigade-size dining halls. What is your policy regarding the construction of dining halls and are you going to continue to build large consolidated facilities or are you going back to the smaller ones?

General DELBRIDGE. Sir, part of the criticism with regard to the dining halls is represented by the fact that it was a very efficient design with what appeared to be more kitchen space than dining area. The dining areas were designed on the number of minutes that it would take a soldier to utilize that space and then move on before the next cycle came in. The criticism was perhaps based on an initial view as opposed to actual experience and we found that that really was not all that bad.

The Troop Support Agency has recommended going to smaller unit size and we feel that future designs will reflect smaller unit configuration, certainly no larger than what we have now.

Senator HART. Thank you very much, General. I want to thank you again for your and your colleagues responses on the Fort Carson question. I will keep in touch with you on that. If you have any problems with the legislative proposals which I have outlined or any new information comes to your attention on the environmental questions, I would appreciate your contacting my office.

I want to thank the chairman also for his cooperation and ask that written testimony from Mr. Jim Patterson, president, Campo Grazing Association, be included in the record.

General DELBRIDGE. Thank you, Senator.

[Prepared statement of Jim Patterson, follows:]

PREPARED STATEMENT OF MR. JIM PATTERSON, PRESIDENT, CAMPO GRAZING ASSOCIATION, RE FORT CARSON LAND ACQUISITION

I wish to submit written testimony in regard to the proposed acquisition of the Pinon Canyon site for expansion of Fort Carson in southern Colorado.

Since I am representing interests of the livestock industry in this testimony I am naturally opposed to the removal of any more grazing land in this state, since livestock is a vital part of the economy of Colorado. Any reduction in the production of beef in the United States causes us to rely more on the poor quality of imported beef and adds to the trade deficit even further.

Should the army in fact obtain the Pinon Canyon site there has been considerations of exchanging this land for land already owned by the Federal Government namely Comanche National Grasslands. I would like to address this issue specifically in this testimony, considering the ramifications of such a trade.

The Comanche National Grazing lands consists of approximately 420,000 acres that are co-mingled with private land through out a three county area in Southeastern Colorado. It is divided into four grazing associations namely Tempest, Campo, Kim and Pritchett. Removing any or all of this land from its present use would have devastating economic impact on the 193 families that obtain a portion of their income from the grasslands. These family type operations are of pioneer heritage in this area and have contributed greatly to keeping the doors of our schools, churches and businesses open, not only during the dust bowl days of the 1930's but the many years following.

Over 12,000 head of cattle are grazed on this acreage annually, generating well over a million dollars in revenue from grazing fees, hunting, recreation, mineral fees and structural improvements.

This land was purchased by the Federal Government in the 1930's from homesteaders which left this area by the hundreds during the dust bowl and depression

days. After revegetation had been completed on this land the grazing permits were issued and these ranches operate around these permits. Without the grazing privileges these units will become so inefficient it will no longer be profitable to continue operating these ranches.

The tax dollars, as well as the previously mentioned revenue generated are important to rural areas such as we have in southern Colorado. Replacing the 193 families who now work on this grassland with the 20 some families of Pinon Canyon will not generate this kind of income or community involvement.

The reduction in population due to this type of land trade could also cause great hardships on the school systems of Kim, Campo, Pritchett and Springfield. The accreditation of most of these schools is already under pressure from the state because of low enrollment, and if they have further reduction it will cause them to close. This in turn will cause the remaining children to either travel excessive distances to school or the family will have to leave the community for the school year.

In closing I ask your careful consideration of these facts.

CONSTRUCTION IN EUROPE

Senator THURMOND. General, we might talk a little about construction in Europe. What is your total backlog of construction in Europe? In the fiscal year 1982 request, how much is included for Europe?

General DELBRIDGE. Mr. Chairman, the total backlog for Europe is \$11.1 billion. That includes not only our 5-year period but as far into the future that a specific facility can be determined and becomes a part of their master plan. That has not been fully justified at the Army staff level. We presently have about \$3.7 billion in Europe that we are looking at as a part of what we can definitely say is a firm requirement for construction, and is therefore part of the backlog of construction in Europe.

So, the answer is \$11.1 billion, Mr. Chairman, of which \$3.7 billion is presently thoroughly justified. We have, in answer to your second question, about \$330 million in the 1982 program that will go to reduce the backlog of construction in Europe.

Senator THURMOND. For the record would you trace the history of the authorization for construction in Europe for the last 5 years and show what is planned for the current 5-year program?

General DELBRIDGE. Yes, sir, I will submit that for the record.

[The information follows:]

FISCAL YEAR 1982 MILITARY CONSTRUCTION AUTHORIZATION ARMY PROGRAMS

Army construction in Europe, past 5 years and planned next 5 years

1977	60,662
1978	152,097
1979	192,000
1980	111,000
1981	190,000
Total	705,759
1982	337,250
1983	370,230
1984	298,148
1985	208,385
1986	349,714
Total	1,563,727

The planned program in Europe during the next 5 years includes the following facilities:

Facility category:	Thousands
Operational and training facilities.....	\$457, 874
Maintenance facilities	502, 204
Supply facilities	109, 725
Administrative and medical facilities.....	8, 801
Housing and morale facilities.....	402, 818
Utilities	82, 305
Total	1, 563, 727

Senator THURMOND. I believe your statement alluded to the poor living and working conditions that our Army people in Europe must suffer. Yesterday, I discussed this issue at some length with Mr. Fliakas. I have been particularly impressed by a report written by Senator Jepsen on his recent trip to Europe. I plan to visit Europe, myself, during the Easter recess and see some of the conditions first-hand. How did we get into the situation where our forces are living and working in such deplorable conditions?

General DELBRIDGE. Mr. Chairman, as I mentioned in our overview, we seem to have been in Europe for 35 years but programing our stay there 1 year at a time. We find that there has invariably been a lack of funding to address the requirements in Europe because of a couple of things. We essentially stopped in place at the end of World War II and we occupied the best facilities available that the Germans had. Those were built prior to World War II, back in the 1930's. Since that time, these facilities have deteriorated. We have had underfunding in the replacement and modernization and maintenance and repair areas and consequently we are now required to replace these 40-year-old facilities. This, coupled with the fact that we have an increase in force modernization, new weapon systems that are requiring some additional space for which we can only go to new construction since we are filled to the brim at the present time.

Senator THURMOND. Many people wonder why we can't get our allies to do more.

General DELBRIDGE. Sir, we feel that the allies are, in essence, doing a great deal more. For example, the NATO contribution to U.S. forces was approximately \$25 million annually during the period 1976 to 1979. Compare that now with fiscal 1980 to 1982 when their average annual contribution is \$267 million. We have a 10-fold increase.

The Allies pay, as we heard yesterday during the NATO infrastructure overview, 73 percent of all of our NATO programs. In addition to that, of course, lands, utilities and access roads are furnished by the host nation. Also, as General Groves pointed out yesterday, a formal demarche has been made to Germany for additional host nation support which the Germans indicate they are seriously considering.

Mr. Chairman, I believe that the support from host nations, our NATO allies, is in fact increasing and we are satisfied with that.

CONSTRUCTION PRIORITIES—EUROPE

Senator THURMOND. Let me ask you about priorities. The majority of your request for Europe is for barracks and maintenance facilities. However, your request also includes \$18 million for gymnasiums, \$12.5

million for community facilities, and \$4 million for administrative facilities. Why are you seeking funds for gymnasiums and community facilities when you have people living and working in unacceptable facilities? Why don't you concentrate on barracks and maintenance facilities until you solve that problem?

General DELBRIDGE. Mr. Chairman, I could not agree with you more on the requirement or the emphasis on barracks and maintenance facilities. We feel that it is extremely essential. However, we feel that there is a requirement to balance our program such that we provide an equal amount of effort to the quality of life which includes athletic and recreational facilities and community facilities because it is necessary to improve our personnel readiness and, more importantly, our soldier retention.

Senator THURMOND. Although this committee does not authorize maintenance and repair funding for buildings, we have a direct interest because of its relationship to building construction costs. I understand that you have a backlog of essential maintenance and repair projects which have not been funded. What is this backlog now in dollars?

General DELBRIDGE. Our current backlog for maintenance and repair is about \$1.8 billion.

MAINTENANCE AND CONSTRUCTION—U.S. ARMY HOSPITAL,
FORT JACKSON, S.C.

Senator THURMOND. This deferred maintenance backlog is of growing concern to installation commanders. There is a prime example at Fort Jackson, S.C. The roof of the hospital leaks badly. Leaks have caused significant damage inside the building. Yet the post commander says he does not have enough money to replace the hospital roof—about \$300,000. Let me ask you some specific questions about the Fort Jackson hospital situation.

How much funding did the Army get to address its backlog of essential maintenance and repair projects in fiscal year 1981?

General DELBRIDGE. Mr. Chairman, we don't really receive a total of operation and maintenance funds that address the BMAR. It comes in a single package and they are distributed among four functional accounts. The first is the operation and utilities; the second is the maintenance and repair of our real property; the third is minor construction, and the fourth is other engineering support.

Only under the second one of these, the maintenance and repair of real property, are we able to apply BMAR projects. Of this total amount, there was \$624 million allocated for maintenance and repair of real property across the board for the Army. Any dollars spent on the BMAR projects would be a subset, then, of this allocation and it is the responsibility of the commander to satisfy his needs on his post as he sees fit.

Senator THURMOND. It seems to me a very foolish thing not to repair a roof and let a hospital building be damaged. Would it not be better to delay construction of some building and repair an essential building like a hospital?

General DELBRIDGE. Mr. Chairman, this is a decision reached by the commander.

Senator THURMOND. Which commander?

General DELBRIDGE. The post commander who has that facility on his post, sir. He makes the decision to utilize the fund—

Senator THURMOND. Do you mean the commander there had the money and could have used it for that instead of something else?

General DELBRIDGE. Yes, sir, that is correct.

Senator THURMOND. Does he have enough money to do that?

General DELBRIDGE. Depending on the priorities he had I believe he felt that he did not have sufficient funds to satisfy all of his priorities, Senator. I would carry this a step further and say that his next higher level, in the case of Fort Jackson, which is the Training and Doctrine Command—

Senator THURMOND. I don't know how he spends his money but I can't imagine how money could be spent in a more important way than to repair the roof of a building. Maybe you had better look into what happened. I would like to know if he had the money. If he did have it, how did he use it? Can you find that out?

General DELBRIDGE. Yes, sir, I can. I can tell you with regard to the roof, however—

Senator THURMOND. If he did not have enough money, then who was it in Washington who did not let him have enough money to repair the leak in the hospital roof? It seems you could have delayed some other construction or repair. A leaking roof can do tremendous damage. I think you have to use commonsense in a situation of that kind.

General DELBRIDGE. I agree.

Senator THURMOND. Can you get me the whole story on this?

General DELBRIDGE. Yes, sir, I will.

Senator THURMOND. Not necessarily because it is in my State, but if matters are being handled like that all over the Nation and all over the world, I think someone has to look into it.

General DELBRIDGE. Yes, sir, I agree. Sir, that roof will be under contract within 6 months.

Senator THURMOND. Six months? The hospital will be ruined. You are not going to wait 6 months to repair the roof, are you?

General DELBRIDGE. I am not exactly sure of the specific date, Senator.

Senator THURMOND. It is an emergency. Why don't you do it tomorrow?

General DELBRIDGE. I understand, sir. I will give you a full report on that.

Senator THURMOND. I would like to have a full report on Fort Jackson. I would like to know what you did. I would like to know what the commander did. Someone is negligent somewhere, it seems to me.

[The information follows:]

FORT JACKSON ARMY HOSPITAL

General DELBRIDGE. The Fort Jackson Army Hospital was originally supposed to have been reroofed on August 15, 1980, but the bids were excessive and no contract was awarded. Subsequent to that action, a study of the roof was made using infrared scanning techniques. Additional problem areas were found by the scanning and this necessitated a new, expanded design effort. The new design will be completed by mid-May 1981. The Army will solicit bids and expects to award a contract as early as July 1981 using expedited procedures, wherever possible.

In the interim, the facilities engineer at Fort Jackson has a resident hospital support element which looks at the roof frequently and makes the necessary emergency repairs to prevent severe damage to the structure. The staff of the Office of the Chief of Engineers (OCE) has had personal discussions with the facilities engineers at both Fort Jackson and the Training and Doctrine Command. Both have assured the OCE staff that all essential repair work is being done.

At the present time, neither funding nor installation priorities are the problem on this issue. Work is in progress to replace the roof of the Fort Jackson Army Hospital as soon as possible. In the past, the installation commanders and facilities engineers at Fort Jackson were constrained by shrinking resources and inflationary pressures that made it difficult to finance all operational necessities. This situation has improved some in 1981. To that extent, this project and many more backlogged maintenance and repair jobs at Army facilities around the world will be accomplished in 1981 that might otherwise have resulted in severe deterioration of facilities.

Senator THURMOND. Last year you told us that the upgrade of the Fort Jackson hospital was a high priority Army project. Based on this information, we authorized the project in the fiscal year 1981 act at about \$16 million. Unfortunately, the project was not funded by the Appropriations Committee. Why did you not request appropriations for this project in your fiscal year 1982 military construction appropriation request?

General DELBRIDGE. Mr. Chairman, the reason was the fact that there were limited funds available and within the competition for these limited funds this particular project did not fare as well as some of the other projects that had a higher priority.

However, it is a high priority project. Outside of the 1982 program the Fort Jackson hospital modernization is the highest priority medical facility project we have and it is in the fiscal year 1983 program. I would ask somebody to elaborate on that answer. I have with me Colonel Walls, who is the commander of the Health Facilities Planning Agency, Office of the Surgeon General, Mr. Chairman, who can elaborate on the priorities as they see it.

Senator THURMOND. If the appropriations were provided, could you contract for this upgrade in fiscal year 1982?

General DELBRIDGE. Yes, sir, we could. That project is over 35-percent designed, and that would be possible.

Senator THURMOND. Did you want someone to elaborate on this?

General DELBRIDGE. I will ask Colonel Walls if he can elaborate a bit on the priorities.

Colonel WALLS. The Fort Jackson electric and mechanical upgrade and seismic strengthening is our highest priority project outside of the 1982 program. The limited dollars which we had available to us in our guidance did not permit it to be entered into the fiscal year 1982 program.

Senator THURMOND. Thank you.

I understand you have a slide presentation at this time on the Middle East?

General DELBRIDGE. Yes, sir, it will be a closed session, Mr. Chairman.

Senator THURMOND. We will ask everyone not cleared to be excused.

[Whereupon at 10:20 p.m., the subcommittee hearing proceeded into executive session.]

EXECUTIVE SESSION

RAPID DEPLOYMENT FORCE FACILITIES

The purpose of this presentation is to provide a detailed briefing on the Army's Rapid Deployment Force construction program in Southwest Asia. Specifically, I'll cover the background, current planning status, and estimated costs regarding our efforts at Ras Banas, Egypt. The overall classification of this presentation is secret.

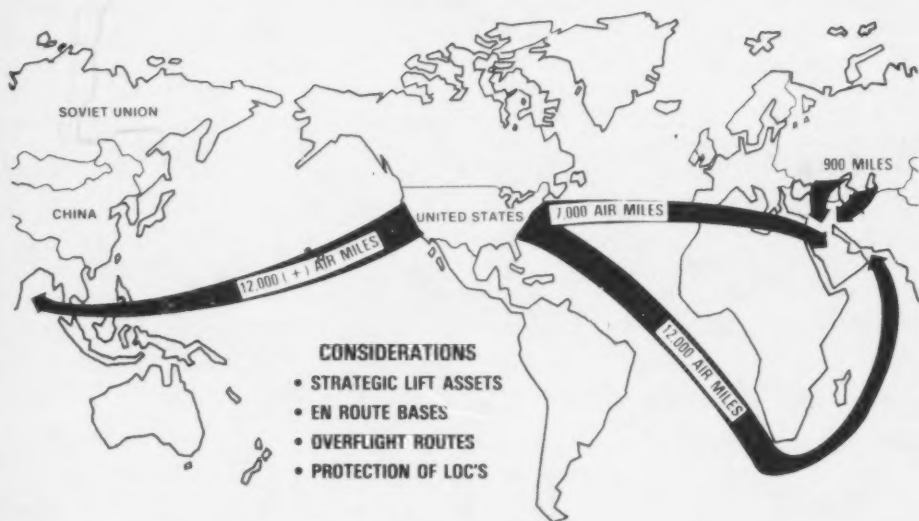
Ras Banas is located in a remote corner of southeastern Egypt on the Red Sea, as shown here. [Deleted.] Our request for fiscal year 1982 construction at the site is \$36 million.

Ras Banas is a joint Air Force/Army facility. The Air Force has been designated as host service and charged with the overall master planning responsibility. This briefing will touch only peripherally on Air Force facilities.

Before I address the specific Army requirements at Ras Banas, let me briefly restate the fundamental Southwest Asia chronology of events which brought us here.

In January 1980, President Carter indicated that control of the Persian Gulf was a vital security interest of the United States. This policy requires that the U.S. Government be able to rapidly project military power into the region and sustain it.

"THE PROBLEM" POWER PROJECTION FROM CONUS



As this slide illustrates, the United States will operate at the very limits of its strategic reach and will be at a geographic disadvantage because of long lines of communications. Therefore, rapid deployment and sustained operations would be greatly enhanced by the development of regional facilities which would reduce strategic lift requirements and provide operating sites.

The Army concept is to develop [deleted] size staging facilities which support onward movement to objective areas and prepositioning of selected items of materiel, primarily fuel and munitions. Our selection criteria are shown on this slide. [Deleted.]

Beginning in December 1979, the Army staff worked closely with the other services and the joint staff to identify regional facilities which possess these characteristics. The sites shown on this map were considered against these criteria [deleted].

[Deleted.]

Diego Garcia, United Kingdom.

[Deleted] Kenya.

Berbera, Somalia.

Mogadishu, Somalia.

[Deleted.]

Ras Banas, Egypt.

Masriah Island, Oman.

[Deleted] Oman.

At the time of the review it was recognized that staging facilities in [deleted] rejected the initial proposals. Accordingly, the Army recommended [deleted] as the preferred site, with Ras Banas, Egypt as an alternate and Berbera, Somalia [deleted] as other less acceptable options.

[Deleted] in March-April 1980, the Army's near-term emphasis shifted to Ras Banas, Egypt as the site for the initial staging facility.

In April 1980, the Joint Chiefs of Staff supported the development of Ras Banas, based on a favorable site survey and President Sadat's willingness to allow U.S. Forces access to Egyptian facilities in pursuit of mutual regional security objectives. To date however formal country-to-country access agreements, mandated by Congress, have not been signed because of Egyptian reluctance to execute such agreements particularly with respect to the establishment of U.S. facilities.

The State Department is continuing to seek some form of agreement to meet congressional desires while satisfying Egyptian concerns regarding infringements on their sovereignty. In July 1980, President Carter approved the concept for development of Ras Banas. In September 1980, a detailed concept plan was prepared. This plan envisioned full development of the airfield and a [deleted] cantonment area in fiscal year 1982, followed by a completed facility for reception and staging of a [deleted] size force. Let me now address this concept and the details of our proposed construction program.

PURPOSE OF STAGING FACILITY

Reduce strategic mobility requirements.

Accept forces with minimum preparation.

Does not require forward deployed forces.

Provide adequate facilities to maintain combat effectiveness.

Provide operational flexibility.

Provide rear area staging facility.

The total design of Ras Banas is intended to achieve the purposes shown here. I'll discuss each in turn. Reduction of strategic mobility requirements will be achieved by enabling deploying forces to assemble at Ras Banas and move forward to the objective area using intra-

theater lift. Additionally, use of Ras Banas as a prepositioned supply point will reduce requirements for transporting the initial high tonnage supplies by strategic lift assets.

The concept of serving as a staging facility for a rapidly deploying force necessitates that the facilities be activated with minimum preparation. Consequently, the onsite facilities must be designed for ease of activation, and not require manning by a large forward deployed force. It is envisioned that a small U.S. contingent, probably civilian contractor, of about 100 personnel, may be stationed at Ras Banas to supervise maintenance of facilities and positioned supplies. At present, approximately [deleted] Egyptian [deleted] personnel are occupying Ras Banas as a caretaker force. The Egyptian Government will retain approval authority of construction and control of all facilities.

Deploying Army forces may be required to occupy the staging facility for an unspecified period due to the political-military situation. For this reason, the facility must possess certain austere life support and maintenance capabilities to allow the force to maintain its combat effectiveness. Army experience in Lebanon in 1958 indicated that climatic conditions and the intense activity associated with rapid deployment may result in physical deterioration of the force. Thus, the staging facility must provide for [deleted] acclimatization.

The concept of operational flexibility addresses the capability to shift to other forms of transportation; for example, intratheater airlift or combat sealift.

Additionally, the facility must provide adequate command, control, and possibly support to the force. We do not currently plan to provide major logistics support from this facility, but we may wish to cycle several units through a single location.

The type of facilities that are currently planned for Ras Banas are depicted on this map. [Deleted.] It is very, very difficult to see even when you are up close but most important will be just the locations and the color combinations as to what we intend. I will currently show some views of existing facilities on the ground which are at or near the locations planned for new facilities.

On the left is a view from the airfield looking northwest. [Deleted.] The structures in the far left are hardened buildings built for the Egyptians by the Soviets prior to the 1973 war.

This view is taken from the same location looking into the hills which border the sea. [Deleted.]

We will upgrade this existing fuel loading pier for use as an ammunition pier. Ammunition will be moved by lighters from ships to the pier, then by truck to the storage area shown on the map. [Deleted.]

We will upgrade this existing cargo pier to accommodate two roll-on/roll-off ships simultaneously for cargo and receive bulk petroleum products which will be pipelined to the storage area shown on the map. [Deleted.]

The existing main runway shown here will be lengthened, widened, and strengthened to meet Air Force requirements and is not included in the Army construction request. The Air Force will testify to details of the airfield. The Army [deleted] heliport shown at the north end of the runway is included in this request. [Deleted.]

The slide on the left represents the type of austere cantonment area planned for Ras Banas. [Deleted.] Basically, they will be tents with frames on concrete slabs. The operational buildings, to include a medical treatment facility for emergency, life-saving support, will be prefabricated metal or preengineered buildings. The cantonment, comprised of clusters of [deleted] size modules, will be located southwest of the airfield.

Finally, the entire staging facility will be served by a central power-plant consisting of 500 kilowatt modules, a seawater desalination plant, seawater-borne sewage to stabilization ponds, and a communications link to Conus and to the operational area. The construction request we are describing today includes the Army share of these facilities.

Here is the cost profile based upon the phasing of [deleted] facilities over a 4-year period. A summation of the phased facility requirements, which total \$215 million through fiscal year 1985 looks like this.

The fiscal year 1982 program of \$36 million will provide the absolutely essential capability for staging [deleted] through Ras Banas. Fiscal years 1983, 1984, and 1985 will provide the remaining austere [deleted]—these figures here are the very latest Army estimates and update previous DOD figures.

This concludes my presentation. Are there any questions?

Senator THURMOND. Thank you, General Delbridge. Is there anything else on that subject?

General DELBRIDGE. No, sir, unless you have any questions.

NATIONAL TRAINING CENTER

Senator THURMOND. I believe you are asking for authority to begin construction of the National Training Center at Fort Irwin, Calif. Will you explain the concept of the National Training Center?

General DELBRIDGE. Yes, Mr. Chairman.

The National Training Center has as its basis the fact that we have found that when a soldier has some previous combat experience, his survivability rate goes up rather quickly. We have found that the bulk of our casualties will occur to the new soldier who is exposed to combat for the first time.

Accordingly, a basic purpose of the National Training Center is to provide, as realistically as possible, a substitution for that initial combat. To do this, to increase the survivability of the force, there is a requirement for several things: The increased amount of land to pit opposing forces, one against the other, and also an instrumentation of the soldiers and the equipment to provide as realistically as possible those elements of the real situation that we try to duplicate. The concept envisions home station training as a precursor to utilization of the National Training Center. Because of land restrictions at unit home stations, we are only able to develop our training through the platoon, the company, and the battalion but not anywhere near the full range of requirements that a battalion must go through in its Army training program.

Training that is accomplished at the home station will permit a post-graduate exercise at Fort Irwin that will do several things. It will pit

one battalion against the other in the most realistic combat conditions. It will allow for a live-fire exercise. It will allow full utilization of all of the units weapon systems, electronic warfare, close air support, and bring to bear at one time all aspects of realistic combat. It would truly be postgraduate training, and we would propose to run each battalion in the Army through this training once every 18 months. Each of our combat battalions, the infantry, mechanized, and armored battalions.

Senator THURMOND. How much did you say this project will cost?

General DELBRIDGE. Sir, the total project, as we see it now, will be approximately \$700 million. That will include all of the funding for not only the military construction but the family housing, research and development costs, and so forth. The military construction cost will be \$143 million through fiscal 1985 plus \$47 million in family housing.

Senator THURMOND. You don't have the space or the equivalent at Fort Stewart to do this?

General DELBRIDGE. Yes, sir; we do have the space at Fort Stewart. In fact, there are two posts in the United States at the present time that do have space, Fort Stewart and Fort Hood. What we would not have, Mr. Chairman, is the ability to completely instrument that battlefield which we propose to consolidate at Fort Irwin.

Senator THURMOND. Fort Stewart is a large post, I wonder if you would not have enough acreage there to take care of the situation without incurring so much cost?

General DELBRIDGE. Fort Stewart would address the one division which is located there, Mr. Chairman; that is correct. We have a total of five other divisions, those that would use Fort Irwin.

NATO INFRASTRUCTURE FUNDING

Senator THURMOND. Will you discuss NATO infrastructure funding and why can't more of your projects, such as ammunition storage and training range projects be made eligible for NATO infrastructure funding?

General DELBRIDGE. Mr. Chairman, NATO has accepted responsibility for a major portion of the ammunition storage required until resupply can be established. I would break the ammunition storage requirement in Europe into four specific areas. As I mentioned in my overview, this is a jointly funded program.

First is the basic load ammunition which is that ammunition used by units in the first [deleted] days. That is the individual nation's responsibility. The next [deleted] days, however, which are storage sites located forward of our present deployment has been determined to be a NATO responsibility and they have funded construction of those particular installations. The next portion, [deleted] days, is that ammunition for designated long-term defense plans of the respective nations. Each nation has that responsibility. I might add that the United States has already met this requirement of [deleted] day storage.

All of that ammunition beyond [deleted] days that would be required on hand until resupply can be reestablished has been determined to be the responsibility of NATO. So, we have requested funds for

basic load storage. Our current requirements for NATO funding of ammunition facilities is more than \$300 million.

With regard to the ranges, as I mentioned in my overview statement, we have per the direction of Congress initiated a prefinancing statement with NATO but the funding process during these negotiations, which are underway to get NATO funding for these ranges, that funding process will take until 1985 or 1988 due to the fact that NATO funding is oversubscribed at the present time.

Accordingly we are asking for the funds now to upgrade those ranges and have submitted a prefinancing statement to NATO to cover a recoupment of those funds should the negotiations proceed and be successful.

Senator THURMOND. I have more questions but will submit them for the record. Thank you, General. I have to be in the Senate shortly. [Questions with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND, ANSWERS SUPPLIED BY NORMAN G. DELBRIDGE, JR., ASSISTANT CHIEF OF ENGINEERS, OFFICE OF THE CHIEF OF ENGINEERS, DEPARTMENT OF THE ARMY

NATIONAL TRAINING CENTER—FORT IRWIN, CALIF.

Senator THURMOND. General Delbridge, how much will the construction of the National Training Center at Fort Irwin, Calif., cost? (Provide for the record the total military construction cost by fiscal year.)

General DELBRIDGE. Including the \$7.7 million MCA reprogramed in fiscal year 1980 for essential utility and facility construction, the total military construction programmed for Fort Irwin from fiscal year 1980-fiscal year 1986 is \$145.5 million. These costs are budgeted and programed as follows:

Fiscal year:	Millions
1980	\$7.7
1981	0
1982	53.8
1983	11.0
1984	29.2
1985	14.5
1986	22.3

Additionally, the fiscal year 1982 budget and fiscal year 1983 programed Family Housing Construction includes \$47.0 million for the construction of 592 family housing units at Fort Irwin.

The fiscal year 1983-fiscal year 1986 cost estimates are, of course, subject to update and review by the Army, OSD, and OMB and, therefore, could change before being included in a budget request to Congress.

Senator THURMOND. General Delbridge, how much will it cost to operate the National Training Center?

General DELBRIDGE. The annual cost of operating Fort Irwin and the National Training Center is \$66.7 million this year (fiscal year 1981) and, when the National Training Center achieves full operations in fiscal year 1984, the annual cost will be approximately \$112 million.

Senator THURMOND. You are planning to have each active duty battalion rotate through the Center at 18-month intervals. Will the battalion's home station be forced to budget for this training?

General DELBRIDGE. No; all costs associated with transportation to and from and training at the National Training Center are included in the Center's estimated costs. It should be noted that units rotating to the Center will not be training at their home stations during such rotations, thus reducing home station training costs as a partial offset to the cost of operating the National Training Center. The Army has estimated these home station cost savings will total \$340,000 per brigade rotation or \$7.14 million per year by fiscal year 1984 when the full annual throughput of 21 brigades (42 battalion task forces) is achieved.

EGYPT

Senator THURMOND. Yesterday, Mr. Fliakas said that part of the fiscal year 1982 request was for Army staging facilities at Ras Banas in Egypt. What exactly do you plan to construct in Egypt?

Answer. The Army currently has construction requirements at Ras Banas for an austere staging facility to accommodate a [deleted] force and provide preposition storage for high tonnage consumable supplies. The staging facility will consist of:

(a) Cantonment area, tents for billeting and messing, structural shells for [deleted].

(b) Functional areas of maintenance, operations and storage facilities for use by the deploying force while at Ras Banas.

(c) Upgrade for Port Complex.

(d) Communications.

(e) Ammunition storage for [deleted].

(f) Fuel storage for [deleted].

Question. What will be the total cost of the Army project at Ras Banas? (Provide a funding profile by fiscal year for the record).

Answer. The program is scheduled for completion over four years as follows:

COST PROFILE

		Amount (millions)	Facility capability
Fiscal year—			
1982		\$36.0	[Deleted.]
1983		85.5	
1984		67.5	
1985		26.0	Support facilities.
Total		215.0	

Senator THURMOND. Do you plan to have other Army staging facilities in the Middle East Area? If so, where?

Answer. Yes; the Army requires at least one additional staging and prepositioning facility. To date the size and location are yet to be determined. We do not anticipate that this facility would require a greater commitment of funds that is envisioned at Ras Banas.

SOLAR ENERGY

Senator THURMOND. Your request contains many projects which include solar systems. How did you determine which projects would include solar systems and what size the solar system would be?

Answer. Because a solar energy feasibility study cannot be made until the project concept drawings are essentially completed and the building systems defined, the solar energy studies for most projects are only being started by the time the program is delivered to the Congress. In order to forecast those projects for which the use of solar energy probably will be found cost effective by the provisions of Section 804 so that funds are identified for the system cost, the results of prior year studies on similar facilities in similar service and within geographical areas of equal insolation are utilized. As a part of the DD Form 1391 technical and cost review in the Office of the Chief of Engineers, each project is examined. Projects for which solar energy systems probably are cost effective are identified. The appropriate field offices are contacted to ascertain the status of the solar study. As a result, project DD Form 1391's are annotated to show use of a solar energy system. In the fiscal year 1982 program 22 projects are identified for use of solar energy systems, and of this total 19 were identified by forecasting feasibility with the remaining 3 identified as feasible as the result of an actual completed study.

The size (and cost) of the solar systems is identified either by the results of an actual study; or, in the case of the more numerous instances of forecasting, by the results of both prior studies and actual designs. The size is determined generally integral with the cost, for those forecasted systems, with a system for the production of only domestic hot water being costed at \$5 per square foot of build-

ing area; and a system for production of both domestic hot water and space heating being costed at \$10 per square foot of building area.

Senator THURMOND. What is your opinion of Section 804 of last year's bill as it has been implemented.

Answer. We find no technical difficulty with Section 804 as it is being implemented. However, we believe changes could be made to make better use of resources. Presently resources are spent on each MCA project for a study to determine the cost effectiveness of the use of solar energy. In the fiscal year 1981 Army MCA program, only 32 projects out of a total of approximately 465 were found to be cost effective for solar energy application. Additionally, actual design was initiated on those projects which solar energy systems were found to be cost-effective. The use of solar energy then was cancelled for all but one of these 32 projects due to the more conservative economic requirements contained in Section 116 of the fiscal year 1981 Appropriations Act (Public Law 96-436). The resources that were lost in the conduct of solar energy studies plus lost design effort, if utilized in a selective solar energy demonstration program without regard to cost effectiveness criteria, could have resulted in construction of from 10 to 15 well-instrumented solar energy systems located in areas of good insolation.

Senator THURMOND. Provide for the record a copy of your instructions to the field implementing Section 804.

Answer. Our instructions for implementing the Section 804 provisions contained in the fiscal year 1979 MILCON Authorization Act are contained in an Engineer Technical Letter 1110-3-302, dated March 14, 1979, a copy of which is attached. Upon the enactment of the fiscal year 1980 MILCON Authorization Act, these implementing instructions were modified by a DAEN-MPE letter dated December 28, 1979, a copy of which is attached. These latest implementing instructions were utilized for all projects in the fiscal year 1981 and fiscal year 1982 MCA programs.

DEPARTMENT OF THE ARMY
Office of the Chief of Engineers
Washington, D. C. 20314

ETL 1110-3-302

DAEN-MPE-E

Engineer Technical
Letter 1110-3-302

14 March 1979

Engineering and Design
EVALUATION OF SOLAR ENERGY

1. Purpose. This letter provides guidance for solar energy application for all MCA projects that start design on or after 7 December 1978.
2. Applicability. This letter applies to all OCE elements and field operating agencies having Army military construction design responsibility.
3. Background.

a. With the pressure of a continuing requirement to reduce non-renewable fuel consumption, it is necessary to investigate the potential use of solar energy for MCA facilities requiring heating, air conditioning, or domestic hot water. Executive Order 12003, dated 20 July 1977, established energy conservation goals for new and existing Federal facilities. Title III of Public Law 94-385, the "Energy Conservation Standards for New Buildings Act of 1976," redirects Federal policies and practices to assure that reasonable energy conservation features will be incorporated in Federally financed new buildings.

b. The Military Construction Authorization Act, 1979, Public Law 95-356 in Section 804 requires that 25 percent, based on the estimated dollar value of the construction cost, of all new facilities except family housing (family housing requirement is 100 percent) that are placed under design shall include solar energy systems to the extent that engineering analyses demonstrates them cost effective. The law makes this requirement effective ninety days after enactment of the act. The law was enacted 8 September 1978; therefore, all design starts on or after 7 December 1978 are subject to these requirements. DOD requires a summary of the engineering analysis be furnished prior to initiating the final design. Essentially, the act requires that an engineering/economic analysis must be made as part of the design process for all military projects. Those projects for which solar energy applications are determined to be cost effective are to be designed as solar energy projects. For the purpose of the engineering/economic analysis, a solar energy system will be considered cost effective if the original investment cost differential can be recovered over the "expected" life of the facility. Further, the act stated that only the initial cost of the systems is to be considered in determining cost effectiveness; hence, if the 25 year energy (operating costs) savings, exclusive of any

maintenance and replacement costs, exceed the original investment cost differential, the original cost differential is to be considered recovered and the solar energy application becomes cost effective.

c. The need to conserve non-renewable/fossil fuel supplies is evident. The need to use/demonstrate solar energy systems is complex. Primarily, solar energy systems must be used to conserve fossil fuel supplies; but it is also an important goal to advance the state-of-the art. Industry must be assisted in establishing production of standardized solar components and subsystems as catalog products with warranted outputs and efficiencies. However, only some of the solar energy system components need advance state-of-the-art development. Solar energy systems include much more than solar collectors, piping, storage, and heat exchangers. Military facilities designs should take advantage of passive solar design techniques (building orientation, amount and location of windows, et cetera) and designers should consider future installation of solar systems when they become more cost effective by carefully designing new facilities (roof slopes, HVAC systems, et cetera) so that they lend themselves to solar retrofit.

4. Guidance.

a. The inclosed Engineering Instructions require the preparation of engineering/economic analysis for solar energy application for Army buildings. The engineering/economic analysis will be prepared as part of and along with the concept design for the project. As a result of the engineering/economic analysis, the project Code "B" ENG Form 3086 cost estimate will be modified.

b. The extent of the required engineering/economic analysis for each project will require judgement as to the potential of solar energy utilization. Hence, each analysis must be carefully managed to assure that the level of investment in the analysis itself is commensurate with the benefits anticipated and that unnecessary evaluation efforts will not be made on obviously ineligible projects.

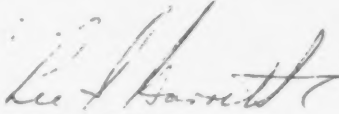
c. The final design of solar projects will implement the recommendations of the engineering/economic analysis as approved by the appropriate CE Division Office.

5. Action To Be Taken. The application of solar energy to Army facilities will be in accordance with the inclosed Engineering Instructions. A statement regarding the technical and economic feasibility of the developing technology as it applies to each project will be reported as an additive at the time the Budget Control Data (ENG Form 3086) are submitted. Each construction project incorporating a solar energy system will clearly show the type of functional purpose of the system (domestic hot water;

space heating; domestic hot water and space heating; and domestic hot water, space heating and space cooling) and the cost including installation. If more than one system is involved in a single project, the type and the cost of each shall be displayed separately. This guidance will be applied to all project designs.

6. Implementation. This letter will have routine application as defined in paragraph 6c, ER 1110-345-100.

FOR THE CHIEF OF ENGINEERS:



LEE S. GARRETT
Chief, Engineering Division
Military Programs

1 Incl

DAEN-MPE-E

ETL 1110-3-302
14 Mar 79

ENGINEERING INSTRUCTIONS FOR SOLAR ENERGY APPLICATION
FOR ARMY BUILDINGS TO PROVIDE DOMESTIC WATER HEATING,
SPACE HEATING AND SPACE COOLING

1. General Engineering/Economic Analysis Guidance.

a. These engineering instructions for solar energy application require the preparation of documentation in the form of an engineering/economic analysis to determine the extent that solar energy systems are cost effective for each of the following systems:

- (1) Domestic Water Heating.
- (2) Space Heating.
- (3) Domestic Water Heating and Space Heating.
- (4) Domestic Water Heating, Space Heating and Space Cooling.

b. It is important that the preparation of the engineering/economic analysis does not delay the design process, and that the analysis be completed early enough to influence budget data submission for final DD Form 1301 updating. Candidate systems will be evaluated on a life cycle cost basis using the life cycle cost procedures contained in the DAEN-MPE-E Engineering Instructions for Preparation of Feasibility Studies for Total Energy, Selective Energy, and Heat Pump Systems except as modified by paragraph 1d hereinafter and by use of the energy cost escalation rates as shown on the table below:

ENERGY SOURCE	ANNUAL ESCALATION RATES (Apply to Today's Initial Cost to Obtain Program Year Cost)		DIFFERENTIAL ESCALATION RATES (Use for Life Cycle Cost Studies)
	FY 79-FY 80	FY 81-FY 83	
Fuel Oil	16%	14%	8%
Natural Gas & LPG	15%	14%	8%
Electricity	16%	13%	7%

The solar energy system(s) recommended for final design will be based on the results of the engineering/economic analysis of various suitable solar energy utilization systems. Reasons for rejecting other systems from further consideration will be noted in the analysis. This will serve to document that suitable engineering/economic analyses have been made, and to indicate

Incl 1

clearly the methods followed and the basis for the decisions made regarding the solar energy systems. The solar engineering/economic analysis will be approved by the CE Division Office. Immediately after CE division approval of a projects engineering/economic analysis, and only through 31 July 1979, a summary of the engineering/economic analysis will be forwarded to HQDA (DAEN-MPE-E) WASH DC 20314 for transmittal to OSD(MRA&L). Final design will not be started until this summary document of the approved analysis has been furnished for OSD(MRA&L). This summary document for each solar energy project will include a brief description of systems considered, a brief pro/con discussion leading to the recommended system(s), a Code "B" ENG Form 3086 cost estimate, payback period, and the life cycle cost of the conventional/solar (solar cost as modified by these instructions) system(s). Starting 1 August 1979 final design will proceed (if previously authorized) immediately after CE Division Office approval of the solar engineering/economic analysis; however, OSD(MRA&L) has requested that the summary of the engineering/economic analysis continue to be submitted but are to be held in file at DAEN-MPE-E.

c. These engineering instructions are in addition to instructions issued for a particular facility for the development of conventional heating, ventilating, air conditioning and plumbing systems in accordance with TM 5-810-1, TM 5-810-5 and DOD 4270.1-M. The applicable portions of U. S. Department of Housing and Urban Development (HUD) Intermediate Minimum Property Standards Supplement for Solar Heating and Domestic Hot Water Systems (1977 Edition) shall be used as a guide in making the required engineering analysis. Site specific solar radiation and other weather data of DOD's authorized weather service (see page iv of TM 5-785, Engineering Weather Data, 1 Jul 78) shall be used in making the required engineering/economic analysis. Since solar energy is intermittent in its availability, design of solar systems for Army facilities have in the past been provided with conventional systems sized to carry the entire building energy requirements. It is not prudent at this time to reduce this requirement for housing and medical facilities. However, for other facilities the capacity of the conventional system(s) equipment(s) may be reduced under the following guidance:

(1) Where consideration of the solar energy input will allow a reduction in the rated load sizes of major space heating or space cooling system components in the conventional system (and significantly reduced construction costs).

(2) Where such a reduction in size will permit maintenance of interior temperatures precluding any damage to the facility or extended periods of discomfort to occupants during periods of solar system outage. Minimum interior space temperatures should never be below 45° F for unoccupied

spaces (in heated buildings) or 55° F for occupied spaces nor should maximum temperatures be permitted above 85° F for occupied spaces (in cooled buildings). The most economical alternative for the conventional system(s) should be selected in accordance with normal procedures as set forth in AR 11-28 and as supplemented by ETL 1110-3-296.

d. The recommended solar energy system must be cost effective. For permanent type facilities in the MCA program an "economic life" of 25 years is ordinarily assumed for investment (life cycle cost) type calculations. Accordingly for solar energy economic calculations, the life expectancy or "expected life" of facilities used in determining cost effectiveness shall be 25 years. The following procedures should be followed to determine the cost effectiveness of the solar energy system(s) alternatives:

(1) The most economical conventional system(s) that are compatible to solar energy application(s) shall be selected in accordance with normal procedures considering life cycle costs.

(2) Solar energy system(s) alternatives that are compatible to the most economical conventional system(s) shall then be identified and evaluated using the 25-year "expected life" of the facility. The recommended solar energy/conventional system(s) will be the one(s) with the lowest life cycle cost if the original investment cost differential is recovered. If the 25-year energy (operating cost) savings, exclusive of any maintenance and replacement costs, exceed the original investment cost differential, the original cost differential is to be considered recovered and the solar energy application becomes cost effective.

(3) Congress has expressed (In Senate Report No. 95-847, "Military Construction Authorization FY 1979") the concern that "... there appears to be a reluctance by the DOD to incorporate solar systems on a large scale because they are not 'cost effective' ..." In order to reconcile this concern, calculations shall be made to determine the point in time when the original solar energy investment cost differential is recovered. The point in time when the investment cost differential is recovered is called the payback period. The payback period is the amount of time, rounded off to years, that it takes to offset the investment cost differential with escalated annual energy savings. For those analyses where there is only one energy source escalation rate and this rate does not change during the study period the following payback year formula (assuming end of year payment) may be utilized:

$$p = \frac{\ln \left(1 + \frac{C}{s} \left(\frac{r}{1+r} \right) \right)}{\ln(1+r)} \quad \text{eq.1}$$

where

C = Investment cost differential

s = Annual energy savings

r = Differential escalation rate of the energy source under consideration

p = Payback year

Equation 1 was developed by summing the escalated annual energy savings as follows:

$$C = s(1+r) + s(1+r)^2 + s(1+r)^3 + \dots + s(1+r)^p$$

The above equation is a geometrical series whose sum is $\frac{C}{s} = \frac{(1+r)^p - 1}{1 - \frac{1}{1+r}}$

From the above, equation 1 was derived by simplifying and solving for p.

The calculated payback period shall be highlighted in the engineering/economic analysis and in the project funding submission.

(4) If the original investment cost is not recovered using an "expected life" of 25 years or less, then the solar energy application(s) under consideration shall be considered as not to be cost effective. In these cases, final design (when authorized) will proceed using conventional system(s) exclusively.

2. Solar Engineering Guidance.

a. Special attention will be directed to the architect-engineer firm's capabilities and expertise in the field of solar energy application. If such expertise does not exist, outside consultants will be retained by the architect-engineer firms.

b. Project specifications will be written to permit all types and configurations of the state-of-the-art solar collectors that can qualify for the temperature of the transfer fluid required.

c. Adequate freeze protection during winter operation will be provided by design. Adequate over-temperature protection will be provided by design to preclude damage to solar collectors resulting from no load or stagnation temperature.

d. The circulation systems, in addition to operational controls, will be provided with monitoring devices such as recording flow meters, pressure gages and thermometers, watthour meters, and totalizing pyranometer to permit visual monitoring of system performance. Based on the experience of the solar consultants and as approved by the District, other useful monitoring devices may be added.

e. The solar systems will be designed for proper interface with the conventional systems and the solar/conventional systems will be provided with operational controls and instrumentation for automatic changeover from one to the other.

f. The solar/conventional system will be designed to use solar energy to the maximum extent with the supplementing conventional system used to the minimum extent. The controls for the solar/conventional system will be the most simple appropriate to the type of functional purpose of the system. Special attention to the following items should be given by the designer in the review of the project design:

- (1) Check that control methodology matches the desired modes of operation.
- (2) Verify that collector loop controls recognize solar input, collector temperature, and storage temperature.
- (3) Verify that controls allow the collector loop and the utilization loop to operate independently.
- (4) Check that control sequences are reversible and will always revert to the most economical mode.
- (5) Check that controls are as simple as possible within the system requirements. Complex controls increase the frequency of breakdowns.
- (6) Check that all controls fail in the safe position.

g. The project drawings and specifications will clearly define in detail how the solar system is to operate, including control logic, all modes of operation, and what quantities of energy it is designed to produce. The Construction Contractor will be required to develop detailed operation and maintenance procedures for the solar/conventional system, based on the plans and specifications, in conjunction with data on the installed equipment, controls, etc. The design A/E contract will require that the Construction Contractor's detailed operation and maintenance procedures be reviewed to

assure that the intent of plans and specifications are met. After approval by the Contracting Officer, the final operating and maintenance procedures will be submitted by the Contractor to the Contracting Officer, compiled as an Operating and Maintenance Manual, not later than 30 days after beneficial occupancy.

h. The design and construction contracts will contain requirements for post-construction data collection and evaluation of the performance of the solar/conventional system(s). The solar/conventional system(s) shall be monitored for a period of time not to exceed one calendar month in order to evaluate the solar system. Monitoring shall include visual observations of the components in the system under each mode of operation, recording of data from devices specified above, and tests as necessary to evaluate the performance of the solar/conventional system. A written report will be prepared detailing the actions taken and the results of the evaluation. The District will determine who will do the monitoring, i.e., (1) the design A/E firm or (2) the Construction Contractor. Five copies of the written report shall be furnished to the Contracting Officer within 60 days after beneficial occupancy. The report will evaluate the adequacy of the system and operating procedures under actual operating conditions and shall include, if necessary, recommendations to improve system operation and/or efficiency.

3. Solar Project Bid Document Guidance.

a. When preparing the bidding documents for those facilities where solar energy system(s) have been determined by engineering/economic analysis to be cost effective the following bid schedule will be developed.

(1) BASE BID - The facility with complete conventional domestic hot water, heating and/or cooling system(s) designed to accept the solar energy system(s) described in the additive bid package at a later date with a minimum impact on the then existing structure including existing system(s). This means for example, such item as roof mounting pads, piping stubouts, pipe chases and equipment room space for electrical panels, chillers, etc., are to be included in this original construction package.

(2) ADDITIVE BID - The facility with complete conventional domestic hot water, heating and/or cooling system(s) as described in the above base bid with the solar energy system(s) determined by engineering/economic analysis to be cost effective. Award of this additive item will be subject to the reasonableness/acceptability of the bid and to the availability of funds.

4. Solar Energy System Design Guidance.

a. Domestic Water Heating.

(1) The solar system for domestic water heating will be designed to provide a minimum of 35 percent of the domestic water requirement on an annual basis.

(2) The domestic water heating system will be designed preferably using nontoxic antifreeze solution in the solar collector in geographical areas where there is a possibility of freezing. If toxic heat transfer fluid is used, two heat exchangers or two-wall separation between the toxic solution and the potable water shall be provided.

(3) Provisions will be made for automatic shutoff of the solar collector pump when available solar energy is inadequate to increase the water temperature above that of the incoming supply water.

(4) Thermal energy storage will be provided and sized to meet the design load of not more than one day. However, this requirement may be modified to suit the climatic conditions and/or the economic trade-offs between storage capacity and collector area. The heated water will be piped to the inlet of the conventional water heater/storage tank.

(5) Solar collectors will be off-the-shelf items.

b. Space Heating.

(1) The space heating system will be designed to provide, as a goal, at least 25 percent of the space heating requirement, on an annual basis, using off-the-shelf solar collectors. Every effort should be made to exceed the 25 percent goal based on engineering/economic analysis.

(2) Thermal energy storage will be provided with capacity sized 2.0 gallons per sq. ft. of collector. However, this requirement may be modified to suit climatic conditions and/or the economic trade-off between storage capacity and collector area.

c. Domestic Water Heating and Space Heating.

(1) The solar design will be a combined domestic water heating and space heating system.

(2) The domestic water heating system will be designed in accordance with the guidance established in paragraph 4a above.

(3) The space heating system will be designed in accordance with the guidelines established in paragraph 4b above.

(4) Thermal energy storage will be provided with capacity sized 2.0 gallons per sq. ft. of collector for space heating and domestic water heating. However, this requirement may be modified to suit climatic conditions and/or the economic trade-off between storage capacity and collector area.

d. Domestic Water Heating, Space Heating and Space Cooling.

(1) Under this category, the solar design may be a combined domestic water heating, space heating and space cooling system, or the domestic water heating can be independent, not combined with space heating or cooling.

(2) The design guidelines for domestic water heating and space heating in paragraph 4a and 4b will be followed, as applicable.

(3) Because of today's state of technology, solar cooling systems should not be considered for facilities with a total air conditioning load of less than 40 tons unless prior approval is obtained from HQDA (DAEN-MPE).

(4) Space cooling by solar will be accomplished by absorption water chillers. The solar system design will be based on providing 240 degrees F medium from the solar collectors. The project specification shall allow absorption chillers that are capable of operation on water below 240 degrees F without crystallization. A minimum temperature will not be established in the specification or on the drawings.

(5) Thermal energy storage will be provided with capacities sized 2.0 gallons per sq. ft. of collector. However, the requirement may be modified to suit climatic conditions and/or the economic trade-off between storage capacity and collector area.

5. Architectural Guidance.

a. A qualified consultant will be selected to determine whether ground mounted or building mounted systems shall be designed to be architecturally compatible with the total environment.

b. Solar panels should be ground mounted wherever possible in order to minimize damage to roof systems caused by roof penetrations and maintenance activities.

(1) When ground mounted, the collectors will be placed upon structural steel supporting frames. The structural steel frames will be elevated so that the deck level supporting the collector panels will be above the surrounding ground at a height to provide adequate headroom to perform maintenance and to permit control of vegetation beneath the collector panels. Adequate provisions will be made for protection against vandalism. The steel supporting frames will include adequate steel deck grating walkways for maintenance and inspection purposes.

(2) When solar collectors must be located on the roof, access to the roof will be limited by providing locking roof scuttles and doorways; permanent exterior mounted ladders will not be permitted. To protect the roofing, traffic on the roof will be controlled with walkways and working platforms of prefabricated asphalt planking layed directly over builtup roofing felts. Solar collectors, controls, etc. will be placed upon elevated structural steel supporting frames fastened to the structural deck or frame with a minimum number of roofing penetrations. Supporting frame will be elevated for at least two feet clearance above roof surfaces. Supporting frame penetrations will be made watertight with base and cap flashings. Safety railings needed for protection at roof edges will be provided.

4. Structural Guidance.

a. Solar panels and associated system elements on the exterior of the building will be designed to support the dead and live loads, and anchored so as to resist positive and negative wind pressures, uplift and turbulence forces derived from shape or configuration and positions of the panels based on the design wind speed, in accordance with the requirements in ETL 1110-3-257. The adequacy of the structural framing systems and the solar panel assembly system will be checked for the dead and live loads and the combination loads of wind, dead and live loads.

b. In evaluating the capability of existing roof slab and roof framing system or structural framing elements to carry additional dead and live loads caused by the solar system components, the strengthening of structural framing as appropriate will be provided where necessary to carry the added loads down to the foundation. Roof penetrations will be kept to the practicable minimum.



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

REPLY TO
ATTENTION GP:

DAEN-MPE

28 December 1979

SUBJECT: Requirements for Solar Energy Systems in FY 80 Military
Construction Authorization Act, PL 96-125, 26 Nov 79

SEE DISTRIBUTION

1. Reference is made to Engineer Technical Letter (ETL) 1110-3-302, DAEN-MPE, subject: Engineering and Design, Evaluation of Solar Energy, dated 14 March 1979.

2. Section 804 in the subject FY 80 MC Act states that all new facilities (including family housing) placed under design after the date of the enactment of the subject Act, shall include consideration of solar energy systems in those cases in which solar energy has the potential to save fossil-fuel-derived energy. All contracts for construction resulting from such design shall include the requirement to furnish and install solar energy systems if such systems can be shown to be cost effective.

3. The referenced ETL provided final Army implementation of the DOD guidance on the provisions of solar energy systems requirements in the FY 79 Military Construction Authorization Act, PL 95-356. In this ETL, paragraph 3, Background, subparagraph b, the language is stated as:

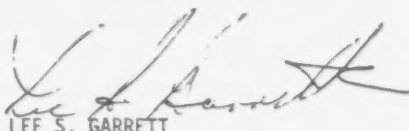
"The Military Construction Authorization Act, 1979, Public Law 95-356 in Section 804 requires that 25 percent, based on the estimated dollar value of the construction cost, of all new facilities except family housing (family housing requirement is 100 percent) that are placed under design shall include solar energy systems to the extent that engineering analyses demonstrates them cost effective. The law makes this requirement effective ninety days after enactment of the act. The law was enacted 8 September 1978; therefore, all design starts on or after 7 December 1978 are subject to these requirements. DOD requires a summary of the engineering analysis be furnished prior to initiating the final design. Essentially, the act requires that an engineering/economic analysis be made as a part of the design process for all military projects. Those projects for which solar energy applications are determined to be cost effective are to be designed as solar energy projects."

4. The provisions of paragraph 3b, as stated above, shall be modified as stated below:

"The Military Construction Authorization Act, 1980, Public Law 96-125 in Section 804 requires that all new facilities (including family housing) that are placed under design shall include solar energy systems to the extent that engineering analyses demonstrates them cost effective. Essentially, the act requires that an engineering/economic analysis be made as a part of the design process for all military projects. Those projects for which solar energy applications are determined to be cost effective are to be designed as solar energy projects."

5. This modification, essentially, only removes the statement "...25 percent, based on the estimated dollar value of the construction cost, of," from paragraph 3b. All other provisions of the ETL, and the Engineering Instructions appended to the ETL, continue effective.

FOR THE CHIEF OF ENGINEERS:


LEE S. GARRETT
Chief, Engineering Division
Military Programs Directorate

DISTRIBUTION:

Division Engineer, Europe
Division Engineer, Huntsville
Division Engineer, Missouri River
Division Engineer, North Atlantic
Division Engineer, North Pacific
Division Engineer, Pacific Ocean
Division Engineer, South Atlantic
Division Engineer, South Pacific
Division Engineer, Southwestern
Division Engineer, Japan
Division Engineer, Middle East
Division Engineer, Middle East (Rear)

District Engineer, Kansas City
District Engineer, Omaha
District Engineer, Baltimore
District Engineer, New York
District Engineer, Norfolk
District Engineer, Alaska
District Engineer, Seattle
District Engineer, Far East
District Engineer, Jacksonville
District Engineer, Mobile
District Engineer, Savannah
District Engineer, Los Angeles
District Engineer, Sacramento
District Engineer, Albuquerque
District Engineer, Fort Worth
District Engineer, Galveston
District Engineer, Tulsa

Senator THURMOND. Do you agree with the life cycling costing procedures for solar systems as promulgated by DoD or do you feel there should be some changes?

ANSWER. We find no basic difficulties with the life cycle costing (LCC) procedure for solar systems, as promulgated by DOD. We would prefer technically to have the discount rate uniform for the LCC evaluations of all building systems rather than the 7 percent rate set for solar systems and the 10 percent rate set for all other building systems. Our experience has shown that by itself the lowering of the discount rate from 10 to 7 percent has rarely resulted in justification of the use of solar energy systems.

We believe the basic lack of reliable solar energy system data on maintenance costs, operation costs, system life, and input/output efficiencies defeats the integrity and usefulness of a present value analysis. In order to build and operate a reasonable number of well-instrumented solar energy systems to accumulate these data, we would recommend a five year program in which a reasonable number, 10 to 15, solar energy projects would be funded each year for each military service, without cost effectiveness selection criteria. DOD would be required to develop the selection criteria and would be required to accumulate and publish annually solar systems experience and cost data.

ENERGY—ENERGY MONITORING AND CONTROL SYSTEMS

Senator THURMOND. Discuss your progress in getting your EMCS projects implemented. Are they yielding the anticipated return?

ANSWER. The Army currently has 10 Energy Monitoring and Control System (EMCS) systems installed, 18 under construction, 6 under design and 6 programmed this year. This is a gain of 4 installed systems over last year. The Army has revised the EMCS guide specification into a stand alone format for large, medium, small and micro systems application. The new specification will provide a technically sound and contractually enforceable specification. An EMCS design course is presently being given 4 times a year, and a design technical manual will be available in two or three months. The installations where the EMCS system have been completed have concurrently implemented other energy saving plans and projects. Therefore, there is no metered data available showing savings that can be attributed solely to the EMCS system. The systems have provided personnel reductions where boiler plants have been automated. Anticipated dollar savings have resulted where peak savings programs have been implemented. Weather changes, variations in tempo of operations, and other energy savings plans and projects have made energy savings with EMCS systems difficult to document. On an overall basis, current information generally indicates that anticipated savings are being realized on operational EMCS systems.

ENERGY—GENERAL

Senator THURMOND. Review your progress in the area of:

- (a) Conversion of power plants to coal.
- (b) Use of refuse derived fuel.
- (c) Use of geothermal power.
- (d) Use of biomass fuel.

ANSWER. (Conversion of power plants to coal). The Army has begun a major program for conversion of heating and power plants from oil and gas to solid fuel. The goals for these conversions are indicated in the Army Energy Plan. The program has been mandated by the DOD, the President and Congress.

The initial Army conversion project was for a large heating plant at Red River Army Depot, Texas. It was initially funded by Congress in the fiscal year 1980 MCA Program at \$8.6 million but has been reprogrammed at \$19 million in the fiscal year 1982 MCA Program. The second major project was for a wood-fired boiler (with future coal burning capability) at Fort Stewart, Ga.; it was funded for \$6.3 million in the fiscal year 1981 MCA Program. In the fiscal year 1982 MCA Program, we have proposed the rehabilitation of a deteriorated heating plant at Iowa Army Ammunition Plant, Iowa, at an estimated cost of \$17.6 million.

The Army's Five Year Plan for future fuel conversions currently applies to 5 installations with projects totaling approximately \$277 million.

(b). (Use of refuse derived fuel). The U.S. Army Construction Engineering Research Laboratory (CERL) evaluated the various possible approaches to alleviate the problems many Army installations have in disposing of refuse, in running out of landfill area, and in reducing the consumption of fuel oil and gas.

CERL determined that the most feasible and economical solution to the Army's problem at this time is through the use of controlled air (or starved air) incinerators with provision for heat recovery (HRI). These HRIs are now being designed and constructed under the Energy Conservation Investment Program (ECIP), because the steam they generate can be fed into the steam distribution system of a nearby boiler plant and the anticipated savings can meet the ECIP criteria.

Currently, 1 HRI has been completed at Fort Eustis, VA. Two HRIs are under construction at Fort Leonard Wood and Fort Knox. There are 13 other HRIs which are under design; 4 in the fiscal year 1982 MCA Program, 5 in the fiscal year 1983 MCA Program and 4 in the fiscal year 1984 Program.

(c). (Use of geothermal power). Surveys have been made by the U.S. Geological Survey for possible application of geothermal power. There is limited potential for economic exploitation of geothermal energy at most Army installations, with the possible exception of the Hawthorne Army Ammunition Plant in Nevada. Studies indicate that a far greater return for the investment can be achieved by use of other available technology.

(d). (Use of biomass fuel). The Army is the lead military department in this energy technology area of wood burning. In February 1974, soon after the OPEC embargo of 1973, a contract was awarded to study the feasibility of meeting energy needs at 24 Army installations through the use of "energy plantations."

The study addressed potential acreage, fast-growing species which could be harvested, rainfall, potential fuel savings, harvesting equipment requirements, environmental problems, and other related factors. Findings indicated that a potential exists to obtain supplemental energy from wood at 15 large Army installations. This study formed the basis for subsequent investigations and project planning.

The Army has been testing sawdust and pelletized wood in equipment ranging from small heating units to large central boiler plants to obtain experience with woods as a major energy source. Particular interest was given to tests of wood pellets in 1979 in a large central plant at Fort Benjamin Harrison, IN, where the boilers and fuel handling equipment were designed to burn coal. Large coal-fired boilers at Rock Island Arsenal, IL were also operated on wood pellets during 1979 and provided additional information. Fort McCoy, WI is successfully using wood as the only source of fuel in a number of smaller boilers designed specifically for this purpose. These tests began in March, 1978, and are being expanded. Results of the operation are being monitored through the Corps of Engineers Construction Engineering Research Laboratory (CERL). Sierra Army Depot has also burned wood pellets successfully in equipment which normally burns coal.

The first new large boiler plant for operation with wood chips was planned in 1978, when a project was included in the proposed fiscal year 1980 military construction program for Red River Army Depot. Congress approved this project, however, due to a very large increase in the cost estimated it was reprogrammed in fiscal year 1982. The boilers and fuel handling systems will be capable of operating on wood chips or coal, although it is intended that wood chips be used to the maximum extent available. The wood chips are available in large quantities from waste wood which arrives at the depot in connection with its mission. This plant will replace two existing plants that burn oil and natural gas. Another large project is planned at Fort Stewart, GA, which has a particularly large forested area. Congress approved this in the fiscal year 1981 military construction program. Fort Stewart, GA has a large timber harvest program, and we intend that waste wood and harvesting slash be used for fuel. This plant will also be supplemented with coal. In each location, experiments will permit the Army to identify the maximum available wood which can be used for energy without impacting adversely on other programs, i.e., timber sales and environmental programs.

A number of other studies that CERL and architect engineers are conducting will provide valuable information. One study investigated the potential for joint ventures between Army installations and local utility authorities in the field of biomass.

PROJECTS--GENERAL

Senator THURMOND. Is every project in your request under design? (If not provide a list of those projects not under design, give the design start and completion dates, and explain the delay.)

Answer. Design has started on every project in the fiscal year 1982 MCA program, except one: Fort Bliss, Tex., PN 373, Training Facility, (ROLAND). This project, programed at \$4.7 million, is scheduled for design start in July 1981 and completion in January 1982. It should be noted that this project was not part of the original MCA program submitted to the Congress in January. It is one of those projects added in the budget amendment, and is absolutely essential to support the Army's initiative to field the ROLAND Air Defense system. If funded, this project can definitely be executed in fiscal year 1982. In addition to that project, the facilities to support the Rapid Deployment Force are not under discrete design. It should be noted however, that some master planning has been accomplished on the camp overall. Since these facilities are austere, and for the most part, pre-engineered, design is simple and in many cases essentially complete in the form of the Army's Functional Component System.

Senator THURMOND. What rates of inflation have you used in estimating the cost of projects in your requests? Provide an example showing how inflation is factored in your estimates.

Answer. The rates of inflation used in developing the costs of projects in the fiscal year 1982 request were:

	Percent
Fiscal year 1981.....	10.6
Fiscal year 1982.....	8.5
Fiscal year 1983.....	7.8
Fiscal year 1984.....	7.1
Fiscal year 1985.....	6.7

The following example shows how inflation is factored into the unit cost for a primary facility (building) which has a two-year construction schedule and a base cost of \$50.00/SF estimated for October 1, 1982, index = 2,581.

Contract Award Date: April 1, 1982.

Midpoint of Construction: April 1, 1983, index = 2,657.

Completion Date: April 1, 1984.

Inflation equals 2,657 over 2,581 equals 3 percent.

Inflation Adjusted Project Cost equals \$50/SF times 2,657 over 2,581 equals \$51.47/SF.

Although the procedures shown above were used to estimate the fiscal year 1982 MCA program submitted to the Congress in January, an additional factor was considered when that program was later amended. The current administration determined that excessive inflation had been forecast in order to compute construction cost for fiscal year 1982. In addition, an initiative to reduce the impact of the Davis-Bacon Act on construction costs is being undertaken. The net effect on the Army of these two factors was a total program reduction of \$45 million, which was spread across the entire program and resulted, generally, in an approximate 4½-percent reduction in the programed cost of each project.

Senator THURMOND. Provide a list of projects in this request that were previously requested and failed authorization. State the reason the project was not authorized.

Answer. Projects in this request for which authorization was withheld in the past are shown below:

Station: Germany. Project (PN): Basic Load Site, Hanau (277), \$2,600,000. Project was requested in fiscal year 1980 program.

Approved by HASC, denied by SASC. House receded to Senate in Conference, with the remark this should be NATO funded. This project is not eligible for NATO funding since basic load storage facilities have been specifically excluded from eligibility and are a natural responsibility.

Senator THURMOND. Provide a list of projects in this request that were previously authorized, but for some reason were never built. State the reason the project was not built.

Answer. Excessive inflation growth during fiscal year 1979 and 1980 caused the deferral of some authorized projects. The projects included in the fiscal 1982 request which were previously authorized are projects which experienced delays

due to design problems. The resolution of these matters resulted in scope and cost increases and is the reason why the projects were selected to be deferred. These are listed below :

	Year authorized	Amount authorized	Current cost (thousands)
Fort Polk, La.: Division support signal intelligence facility.....	1980	380	\$630
Sunny Point Military Ocean Terminal, N.C.: Explosive truck access road..	1980	490	880
Fad River Army Depot, Tex.: Modernization engine/transmission dynamometer test facility.....	1980	330	720
Walter Reed Army Medical Center, Washington, D.C.: Medical Administrative and Support Facility Building 11.....	1979	3,524	6,250
Germany, various:			
Tactical equipment shop, Aschafenburg.....	1979	1,814	5,600
Heavy equipment maintenance facility.....	1979	4,050	8,400

Senator THURMOND. Are any projects in your request impacted by pending or planned base realignment announcements? (Provide a list and discuss the potential impact of the realignment announcement.)

Answer. There are no projects in the fiscal year 1982 MCA program request which could be impacted by pending or planned base realignment actions.

UNFUNDED PRIORITY PROJECTS

Senator THURMOND. Provide for the record a list of unfunded construction projects in order of priority totaling not more than \$100 million that can be put under contract in fiscal year 1982. Include with your list the project design status and the project form 1391.

Answer. The requested information follows, in priority order as shown :

Priority and location	PN	Project	Cost (thousands)	Percent
1—Germany.....	463	Maintenance shop, Schwaebisch Gmuend.....	\$4,800	35
2—Fort Dix.....	212	Barracks modernization.....	18,600	35
3—Aberdeen PG.....	118	Chapel.....	2,830	35
4—Fort McClellan.....	264	Reception/processing center expansion.....	3,800	94
5—Germany.....	948	Missile maintenance facility, Fuerth.....	5,500	124
6—Fort Hood.....	435	Hangar with shops.....	13,180	12
7—Fort Benning.....	338	Trainee barracks complex.....	19,850	95
8—Germany.....	029	Barracks, Fuerth.....	6,100	125
9—Germany.....	810	Barracks/Dining, Baumholder.....	520	125
10—Fort Hood.....	432	Battalion headquarters/ classroom.....	1,240	115
11—Fort Polk.....	214	Battalion headquarters/ classroom.....	2,700	15
12—Fort Monmouth.....	997	Refused fired boiler.....	6,600	70
13—Fort Benning.....	332	Ammunition—storage.....	2,450	35
14—Germany.....	808	BEQ Kitzingen.....	3,900	125
15—Fort Polk.....	213	Company administration/supply facility.....	4,990	15
16—Fort Irwin.....	140	Company administration/supply facility.....	2,050	75

¹ Site adaption of a standard plan.

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Bismark Kaserne, Schwebisch Gmuend, Germany			4. PROJECT TITLE Tactical Equipment Shop		
5. PROGRAM ELEMENT 22396A	6. CATEGORY CODE 214	7. PROJECT NUMBER B951-463	8. PROJECT COST (\$000) 4,800		
B. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
<u>Primary Facility</u>					
Tactical Equipment Shop (New)	SF	24,200	97.75	3,967 (2,366)	
Tactical Equipment Shop (Modernize)	SF	5,060	41.50	(210)	
Hardstand	SY	15,200	65.00	(988)	
Concrete Apron	SY	6,200	65.00	(403)	
<u>Supporting Facilities</u>				369	
Electric Service, Lighting, Fences & Gates			LS	(89)	
Water, Sewer, Gas			LS	(19)	
Steam Distribution				(50)	
See Cost estimate (Continued)				(211)	
Subtotal				4,336	
Contingency (5%)				217	
Total Contract Cost				4,553	
Supervision Inspection & Overhead (6.5%)				296	
Total Request				4,849	
Total Request (Rounded)				4,800	
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construct a tactical equipment shop and modernize an existing shop building. Supporting facilities include lighted fencing, utilities services, steam distribution, storm drainage, site improvements and communications. Demolish three buildings (9,612 SF). Not sited in a flood plain.					
11. REQUIREMENT: 30,257 SF Adequate: None Substandard: 11,322					
PROJECT: Construct a new tactical equipment shop and modernize an existing one.					
REQUIREMENT: This project is required to provide facilities in which to maintain the 264 wheeled vehicles and 49 trailers assigned to four batteries of the 1st Battalion, 41st Field Artillery and the Headquarters and Headquarters Battalion of the 56th Field Artillery Brigade.					
CURRENT SITUATION: The existing buildings were constructed by the German Government during the 1930s. These buildings are functionally inadequate and do not comply with safety, fire protection or energy conservation standards. These buildings do not have adequate electrical, plumbing or mechanical systems which reduces the level of maintenance. Building 518 is suitable for modernization; the other existing shop buildings are beyond economic repair and will be demolished.					
IMPACT IF NOT PROVIDED: Existing facilities will continue in use, adversely affecting equipment maintenance and combat readiness.					
NATO INFRASTRUCTURE CATEGORY: This project is not within an established NATO Infrastructure Category (including the Reinforcement Support Category), for common funding nor is it expected to become eligible.					

1 COMPONENT ARMY	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2 DATE 29 Apr 1981
3. INSTALLATION AND LOCATION Bismark Kaserne, Schwebisch Gmuend, Germany			
4. PROJECT TITLE Tactical Equipment Shop		5. PROJECT NUMBER B951-463	
9. COST ESTIMATE: (Continued)			
<u>Item</u>	<u>U/M</u>	<u>Quantity</u>	<u>Unit Cost</u> <u>Cost (\$000)</u>
<u>Supporting Facilities</u> (Continued)			
Storm Drainage			LS 8
Site Improvement			LS 85
Demolition			LS 97
Communications			LS 21
		Total	211

1. COMPONENT ARM*		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Dix, New Jersey			4. PROJECT TITLE Barracks Modernization		
5. PROGRAM ELEMENT 85796A	6. CATEGORY CODE 721	7. PROJECT NUMBER B105-212	8. PROJECT COST (\$000) 18,600		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
<u>Primary Facility</u>					
Barracks Modernization	SF	226,973	42.90	15,081 (9,737)	
Dining Facilities Modernization	SF	21,200	25.32	(537)	
Admin/Storage Modernization	SF	110,772	14.03	(1,554)	
Exterior Block Wall Renovation	EA	8	401,300	(3,210)	
Sound Attenuation			LS	(43)	
<u>Supporting Facilities</u>					
Electric Service			LS	1,019 (826)	
Paving			LS	(46)	
Site Improvement			LS	(147)	
Subtotal				16,100	
Contingency (10%)				1,610	
Total Contract Cost				17,710	
Supervision, Inspection & Overhead (5%)				886	
Total Request				18,596	
Total Request (Rounded)				18,600	
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Renovate and modernize nine barracks which includes billets, a dining facility and administration/storage areas. This project includes utilities, paving and site improvements. Not sited in a flood plain. Air Conditioning - 1,075 Tons.					
11. REQUIREMENT: 1,419 MN* Adequate: 0 Substandard: 4,465 MN					
PROJECT: This project provides modernized billets for permanent party personnel assigned to Fort Dix.					
REQUIREMENT: This project is required to provide adequate barrack housing for 1,313 permanent party personnel. These barracks include administration and supply areas for the equivalent of 20 companies which require upgrading to current safety fire protection, energy conservation and functional requirements.					
CURRENT SITUATION: The existing billets were designed on the basis of open squad rooms with 72 SF per lower grade enlisted man. The existing squadrooms have no partitions and inadequate lighting. In general, sleeping areas, latrines, dayrooms, lounges, dining areas and other general troop areas of the barracks are substandard and require general upgrading.					
IMPACT IF NOT PROVIDED: If this project is not approved, permanent party personnel at Fort Dix, N. J. will continue to be billeted in substandard quarters.					
* Permanent Party Personnel					

DD FORM 1391

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO 190

1. COMPONENT ARMY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Aberdeen Proving Ground, Maryland			4. PROJECT TITLE Chapel Center		
5. PROGRAM ELEMENT 65804A	6. CATEGORY CODE 740	7. PROJECT NUMBER B201-118	8. PROJECT COST (\$000) 2,830		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
<u>Primary Facility</u>				1,684	
Religious Education Building	SF	12,225	61.60	(753)	
Chapel (300-Seat)	SF	8,550	96.70	(827)	
Solar	SF	20,775	5.00	(104)	
<u>Supporting Facilities</u>				883	
Electric Service			LS	(70)	
Water, Sewer, Gas			LS	(29)	
Paving, Walks, Curb & Gutter			LS	(579)	
Storm Drainage (20) Site Improvement (168)			LS	(188)	
Communications			LS	(17)	
Subtotal				2,567	
Contingency (5%)				128	
Total Contract Cost				2,695	
Supervision Inspection & Overhead (5%)				135	
Total Request				2,830	
Total Request (Rounded)				2,830	
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construction of a permanent, fire-resistant 300-seat chapel and religious education facility complete with required utilities services, fire protection, communications, roads, walks, paving, curb and gutter, storm drainage and site improvements. Heating from self-contained oil-fired plant. Demolish three temporary buildings (18,360 SF). Not sited in a flood plain. Air Conditioning - 90 Tons.					
11. REQUIREMENT: 34,256 SF Adequate: 13,481 SF Substandard: 18,360 SF PROJECT: Construction of a permanent chapel and religious education facility at Aberdeen Proving Ground. REQUIREMENT: This project is required to replace existing facilities with an adequate, modern chapel and religious education facilities for 6,000 active military and 7,300 dependents assigned to the installation plus 9,300 retirees and 3,000 dependents. Religious education and related chapel activities are conducted for all age groups, preschool through adult, in all faiths attended by 10,000 persons per fiscal quarter. Chapel service attendance is 7,500 persons per fiscal quarter. CURRENT SITUATION: Four facilities at the installation serving these functions are temporary World War II mobilization type structures. Two were administrative type facilities diverted for religious activities. Of four original World War II mobilization type chapels, only two remain serviceable and are uncomfortable, inadequate and potential fire hazards and require excessive maintenance. One original chapel was demolished because of excessive fire damage; another is not used and being removed from the inventory because it is so badly deteriorated and beyond economical repair. The two remaining chapels do not contain adequate					

1. COMPONENT ARMY	FY 198 ² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981
3. INSTALLATION AND LOCATION Aberdeen Proving Ground, Maryland			
4. PROJECT TITLE Chapel Center		5. PROJECT NUMBER B201-118	
11. REQUIREMENT: (Continued) CURRENT SITUATION: (Continued) space for necessary activities and each such features as baptistries, choir rooms and separate latrines. There are no provisions for the physically handicapped. All facilities have extensive dry rot damage. IMPACT IF NOT PROVIDED: Existing facilities will remain in use with serious detriment to the authorized religious activities at Aberdeen PG and adverse impact on the welfare and morale of assigned personnel.			

1 COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2 DATE 29 Apr 1981	
3 INSTALLATION AND LOCATION Fort McClellan, Alabama			4 PROJECT TITLE Expansion of Reception and Processing Center		
5 PROGRAM ELEMENT B1714A	6 CATEGORY CODE 141	7 PROJECT NUMBER B305-264	8. PROJECT COST (\$000) 3,800		
9 COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Primary Facility				3,274	
Clothing Issue Building	SF	49,600	52.40	(2,599)	
Reception & Processing Bldg Expansion	SF	2,700	55.00	(149)	
See Cost Estimate (Continued)				(526)	
Supporting Facilities				191	
Electric Service			LS	(67)	
Water, Sewer, Gas			LS	(14)	
Paving, Walks, Curb & Gutter			LS	(28)	
Storm Drainage (22) Communications (23)			LS	(45)	
Site Improvement			LS	(37)	
Subtotal				3,465	
Contingency (5%)				173	
Total Contract Cost				3,638	
Supervision Inspection & Overhead (5%)				182	
Total Request				3,820	
Total Request (Rounded)				3,800	
Installed Equipment - Other Appropriations					
10 DESCRIPTION OF PROPOSED CONSTRUCTION Expand the Reception and Processing Center by constructing a clothing issue building; expanding the reception and processing building; expanding the reception building and expanding the heating plant. Not sited in a flood plain. Air Conditioning - 150 Tons.					
11. REQUIREMENT: 95,000 SF Adequate: 33,867 SF Substandard: None					
PROJECT: Expansion of the Reception and Processing Center at Fort McClellan.					
REQUIREMENT: This project is required to provide facilities to expand the Reception and Processing Center at Fort McClellan in order to process female as well as male personnel.					
CURRENT SITUATION: The existing facilities are overcrowded, have no facilities for use by both male and female personnel and lack adequate clothing issue facilities. Clothing issue is now accomplished in an inadequate warehouse which was designed as a club and is located away from the Reception and Processing Center.					
IMPACT IF NOT PROVIDED: Inadequate facilities for processing candidates will continue in use adversely affecting Military Police training, Chemical School training and Basic training.					

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort McClellan, Alabama					
4. PROJECT TITLE Expansion of Reception and Processing Center				5. PROJECT NUMBER B305-264	
9. COST ESTIMATE: (Continued)					
<u>Item</u>		<u>U/M</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost (\$000)</u>
<u>Primary Facility</u> (Continued)					
Recreation Building Expansion		SF	1,420	53.43	76
Heating Plant Expansion		SF	1,230	147.62	182
Solar		SF	53,720	5.00	268
Total					526

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Monteith Barracks, Fuerth, Germany			4. PROJECT TITLE Missile Maintenance Facility		
5. PROGRAM ELEMENT 22396A	6. CATEGORY CODE 212	7. PROJECT NUMBER R951-948	8. PROJECT COST (\$000) 5,500		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility					4,447
Missile Maintenance Building		SF	36,000	95.60	(3,442)
Apron		SY	5,700	65.00	(371)
See Cost Estimate (Continued)					(634)
Supporting Facilities					478
Electric Service & Transformer Station					(108)
Water, Sewer, Gas					(56)
Security Fence & Lighting					(120)
Storm Drainage (#6) Communications (21)					(67)
Site Improvement					(127)
Subtotal					4,925
Contingency (5%)					246
Total Contract Cost					5,171
Supervision Inspection & Overhead (6.5%)					336
Total Request					5,507
Total Request (Rounded)					5,500
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construct a missile maintenance facility with maintenance bays, administration area, storage areas, communications vault and supporting facilities. Heating from a self-contained coal-fired plant. Not sited in a flood plain					
11. REQUIREMENT: 36,000 SF Adequate: None Substandard: None					
PROJECT: Construction of a missile maintenance facility.					
REQUIREMENT: This project is required to provide adequate facilities for direct support maintenance on the TOW, DRAGON, LANCE, VULCAN, CHAPPARAL, REDEYE and STINGER missile systems assigned to the 1st Army Division.					
CURRENT SITUATION: G Company, 123rd Maintenance Battalion will be stationed at Monteith Barracks in the fourth quarter FY 1982 to provide direct support maintenance for the 1st Armor Division's missile systems. Facilities are not available to perform this mission.					
IMPACT IF NOT PROVIDED: Missile maintenance facilities will not be available, adversely affecting equipment performance and combat readiness.					
NATO INFRASTRUCTURE CATEGORY: This project is not within an established NATO Infrastructure Category (including the Reinforcement Support Category), for common funding nor is it expected to become eligible.					

1. COMPONENT ARMY	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 81
3. INSTALLATION AND LOCATION Monteith Barracks, Fuerth, Germany			
4. PROJECT TITLE Missile Maintenance Facility		5. PROJECT NUMBER B951-948	
9. COST ESTIMATE (Continued)			
<u>Item</u>	<u>U/M</u>	<u>Quantity</u>	<u>Unit Cost</u> <u>Cost (\$000)</u>
<u>Primary Facility (Continued)</u>			
Storage Building	SF	3,500	28.80 101
Hardstand	SY	8,200	65.00 533
		Total	634

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Hood, Texas			4. PROJECT TITLE Hangar		
5. PROGRAM ELEMENT 22611A	6. CATEGORY CODE 211	7. PROJECT NUMBER B404-435	8. PROJECT COST (\$000) 13,180		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility					10,888
Hangar w/Shops		SF	64,900	56.70	(3,680)
Solar		SF	64,900	5.00	(340)
See Cost Estimate (Continued)					(6,868)
Supporting Facilities					1,067
Electric Service, Lighting				LS	(506)
Water, Sewer, Gas				LS	(53)
Paving, Walks, Curb & Gutter, Apron				LS	(379)
Storm Drainage				LS	(42)
Site Improvement (49) Communications (38)				LS	(87)
Subtotal					11,955
Contingency (5%)					598
Total Contract Cost					12,553
Supervision Inspection & Overhead (5%)					628
Total Request					13,181
Total Request (Rounded)					13,180
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construct a hangar with shops, helicopter hover lanes, helicopter parking and supporting facilities. Project includes upgrading and extending electrical feeders, concrete apron, wash facility and a hot point refueling facility. Not sited in a flood plain. Heating from a self-contained dual-fuel (oil or gas) plant. Air Conditioning - 54 TONS.					
11. REQUIREMENT: 777,361 SF Adequate: 282,707 SF Substandard: 49,916 SF PROJECT: Construction of an aircraft hangar with shops. REQUIREMENT: This project is required to provide an organizational maintenance hangar for the 85 helicopters authorized the 4/9th Assault Helicopter Squadron. CURRENT SITUATION: No hangar facilities are available at Fort Hood to accommodate the 4/9th Assault Helicopter Sqdn, 6th Cav Brigade (Air Combat). This squadron requires 64,900 SF of permanent organizational hangar/shop space and has only borrowed space. This unit presently shares a permanent hangar with 2d Armored Div Aviation units and uses 50% (10,537 SF) of this structure. The maintenance mission of this unit is severely handicapped by lack of adequate space. Joint occupancy of this hangar adversely affects security of equipment and is detrimental to the efficiency and morale of using personnel. All hangar facilities including temporary buildings are presently over utilized by line aviation units, the General Support (GS) Aviation Maintenance Branch (AMB) of Directorate of Industrial Operations, and Base Operations. These combined activities place a heavy demand on existing aircraft maintenance space, helipads,					

1. COMPONENT ARMY	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981		
3. INSTALLATION AND LOCATION Fort Hood, Texas					
4. PROJECT TITLE Hangar			5. PROJECT NUMBER B404-435		
9. COST ESTIMATE: (Continued)					
	<u>Item</u>	<u>U/M</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost (\$000)</u>
<u>Primary Facility (Continued)</u>					
	Hover Lane (Asphaltic Concret)	SY	156,250	17.00	2,656
	Apron & Wash	SY	38,613	26.20	1,012
	Helicopter Parking	SY	122,150	26.20	3,200
	Total				6,868
11. REQUIREMENT: (Continued)					
CURRENT SITUATION: (Continued)					
impossible to accommodate the maintenance mission and personnel of this unit without compromising other mission essential airfield operations.					
IMPACT IF NOT PROVIDED: Existing conditions will continue with the lack of aircraft maintenance hangars adversely affecting equipment performance and unit readiness.					

1. COMPONENT ARMY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Benning, Georgia			4. PROJECT TITLE Barracks Complex, Trainee		
5. PROGRAM ELEMENT 82711A	6. CATEGORY CODE 721	7. PROJECT NUMBER B301-338	8. PROJECT COST (\$000) 19,850		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
<u>Primary Facility</u>					13,578
Barracks		SF	171,610	49.59	(8,510)
Seismic Protection				LS	(67)
See Cost Estimates (Continued)					(5,001)
<u>Supporting Facilities</u>					4,420
Electric Service				LS	(430)
Water, Sewer, Gas				LS	(320)
Steam Distribution				LS	(1,700)
Paving, Walks, Curb, & Gutter				LS	(1,100)
See Cost Estimates (Continued)					(1,068)
Subtotal					17,998
Contingency (5%)					900
Total Contract Cost					18,898
Supervision Inspection & Overhead (5.0%)					945
Total Request					19,844
Total Request (Rounded)					19,850
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construct a barracks with administration and storage areas, battalion headquarters and classrooms, dining facilities, company administration and supply areas, troop training area and athletic facilities. Heating to be provided by expanding an existing heating plant. Not sited in a flood plain. Air Conditioning - 440 Tons.					
11. REQUIREMENT: 10,120 MN Adequate: 5,500 MN Substandard: 7,608 MN					
PROJECT: Construction of a trainee barracks.					
REQUIREMENT: This project is required to provide to billets and related facilities for 1,150 enlisted personnel assigned to the station for training. This project will consolidate billeting, dining and administrative operations under one roof thereby keeping loss of training time to a minimum.					
CURRENT SITUATION: Adequate barracks are not available for personnel training at Fort Benning necessitating the use of World War II mobilization type buildings. These buildings do not conform to current safety, fire protection and energy conservation standards. The heating, electrical and plumbing systems in these buildings are inadequate.					
IMPACT IF NOT PROVIDED: It will be necessary to continue housing some trainees in deteriorating inadequate quarters without authorized amenities; adversely affecting troop morale and efforts to retain qualified individuals in the Army.					

1. COMPONENT ARMY	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Benning, Georgia				
4. PROJECT TITLE Barracks Complex, Trainees			5. PROJECT NUMBER B301-338	
9. Cost Estimates (Continued)				
<u>Item</u>	<u>U/M</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost (\$000)</u>
<u>Primary Facilities (Continued)</u>				
Covered Training Area	SF	27,000	43.20	1,166
Battalion Headquarters	SF	2,370	76.80	182
Battalion Classroom	SF	16,575	62.55	1,037
Dining Facility	SF	16,700	104.78	1,750
Company Admin & Storage	SF	13,500	59.55	804
Athletic Facility			LS	62
		Total		5,001
<u>Supporting Facilities (Continued)</u>				
Storm Drainage			LS	200
Site Improvement			LS	458
Demolition			LS	310
Communications			LS	100
		Total		1,068

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Monteith Barracks, Fuerth, Germany			4. PROJECT TITLE Enlisted Personnel Barracks with Dining Facilities		
5. PROGRAM ELEMENT 22396A	6. CATEGORY CODE 721	7. PROJECT NUMBER R951-29	8. PROJECT COST (\$000) 6,100		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Primary Facility				4,843	
Barracks (172 MN)	SF	28,724	88.00	(2,528)	
Dining Facility	SF	4,200	209.50	(880)	
Administrative Facilities	SF	14,020	102.35	(1,435)	
Transformer (630 KVA)			LS	(136)	
Supporting Facilities				633	
Communications			LS	(68)	
Water, Gas, and Sewer (22) Elec Serv (20)			LS	(42)	
Paving, Walks, and Gutter			LS	(163)	
Site Improvement (323) POL Separator (37)			LS	(360)	
Subtotal				5,476	
Contingency (5%)				274	
Total Contract Cost				5,750	
Supervision Inspection & Overhead (6.5%)				374	
Total Request				6,124	
Total Request (Rounded)				6,100	
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construct a 172 enlisted personnel barracks with dining area and administrative and storage area, to include laundry rooms, dayrooms, latrines, utilities, communications, sidewalk, and site improvements. Provisions for handicapped will not be made. Heating by self-contained coal-fired plant in building. Not sited in a flood plain. Mechanical Ventilation - 140,900 CFM.					
11. REQUIREMENTS: 46,944 SF Adequate: None Substandard: None					
PROJECT: Construct a barracks with dining facility and administration storage space at Monteith Barracks, Nuerenberg.					
REQUIREMENT: This project is needed to provide adequate billet space for a new unit, G Company, 123rd Maintenance Battalion. This new battalion will perform maintenance on all missile systems of the 1st Armored Division. On-post housing and dining facilities are needed so the individual soldiers can have reasonably safe, private and comfortable sleeping areas and an available adequate mess hall.					
CURRENT SITUATION: Existing facilities are at capacity. No other billet or mess facilities are available for additional personnel. There are no reasonably priced facilities on the economy for meals.					
IMPACT IF NOT PROVIDED: The personnel will double-up in currently full rooms and meals will be limited in the existing facility. Off-post facilities will be utilized for meals at high cost. This will result in poor morale.					
NATO INFRASTRUCTURE CATEGORY: This project is not within an established NATO Infrastructure Category (including the Reinforcement Support Category) for common funding, nor is it expected to become eligible.					

1 COMPONENT ARMY		2 DATE FY 1982 MILITARY CONSTRUCTION PROJECT DATA	
3. INSTALLATION AND LOCATION Communication Site Erbeskopf, Baumholder, Germany		4 PROJECT TITLE Enlisted Personnel Barracks with Dining Facilities	
5 PROGRAM ELEMENT 22396A	6 CATEGORY CODE 721	7. PROJECT NUMBER B951-810	8. PROJECT COST (\$000) 520
9 COST ESTIMATES			
ITEM	U/M	QUANTITY	COST (\$000)
Primary Facility			357
Barracks with Dining	SF	3,100	(357)
Supporting Facilities			105
Electric Service			LS (2)
Water, Gas and Sewer			LS (5)
Heat Distribution			LS (11)
Communications (42) Site Improv (45)			LS (97)
Subtotal			462
Contingency (5%)			23
Total Contract Cost			485
Supervision Inspection & Overhead (6.5%)			32
Total Request			517
Total Request (Rounded)			520
Installed Equipment - Other Appropriations			
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construct a 30 enlisted personnel barracks building with dining facilities, to include laundry rooms, dayrooms, billet rooms, latrines, utilities, communications, and mess hall. The mess hall will include a seating area that can be utilized as a day room or other purpose, a serving area and kitchen with kitchen storage area. Provisions for the handicapped will not be made.			
11. REQUIREMENT: 36 MN Adequate: None Substandard: None			
PROJECT: Construct a barracks with dining facilities for enlisted personnel.			
REQUIREMENT: Adequate housing and messing facilities for personnel assigned to the 11th Signal Battalion isolated radio relay, site located on Erbeskopf mountain. Facilities are needed that are designed as barracks as well as facilities that can accommodate both male and female personnel and accommodate a personnel increase under restationing plans. Separate facilities are needed so that personnel are not working, eating, sleeping and recreating within the same building.			
CURRENT SITUATION: Personnel are billeted in the operations building, temporarily converted with rooms. There are no windows and the latrine is on a separate floor. The facility is designed as a bomb and artillery resistant radio control building without provisions for billeting personnel. The site is remote and at times isolated due to snow. Facilities are needed so that both men and women can be assigned to the site. Space used for billeting personnel is needed for radio operations which are currently crowded.			
IMPACT IF NOT PROVIDED: Personnel will continue to live and work within the crowded operations building with inadequate living conditions, to the detriment of morale and mission.			

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Hood, Texas			4. PROJECT TITLE Battalion Headquarters and Classrooms		
5. PROGRAM ELEMENT 22611A	6. CATEGORY CODE 141	7. PROJECT NUMBER B404-432	8. PROJECT COST (\$000) 1,240		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Primary Facility				862	
Building	SF	12,330	62.72	(773)	
Drilled Pier Foundation			LS	(20)	
Solar	SF	12,330	5.00	(62)	
Intrusion, Detection System			LS	(7)	
Supporting Facilities				263	
Electric Service			LS	(31)	
Water, Sewer, Gas			LS	(44)	
Paving, Walks, Curb & Gutter			LS	(94)	
Site Improvement (55) Communications (39)			LS	(94)	
Subtotal				1,125	
Contingency (5%)				56	
Total Contract Cost				1,181	
Supervision Inspection & Overhead (5%)				59	
Total Request				1,240	
Total Request (Rounded)				1,240	
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construction of a permanent, fire resistant battalion headquarters and classrooms building with installation of an intrusion detection system to be provided by others, complete with required utilities services, fire protection, communications, access drive, parking area, paving, walks, curb and gutter and site improvements. Heating from self-contained oil/gas-fired plant with 30-day capacity fuel oil storage tank. Not sited in a flood plain. Air Conditioning - 60 Tons					
11. REQUIREMENT: 678,150 SF Adequate: 257,799 SF Substandard: 71,184 SF PROJECT: Construction of a battalion headquarters with classrooms at Fort Hood.					
REQUIREMENT: This project is required to provide a battalion headquarters and classrooms for the 115th Combat Electronic Warfare Intelligence (CEWI) that is scheduled for activation and assignment to the installation in 1984. The strength of this battalion will be 530 military personnel. This installation has a total space requirement for 55 battalions.					
CURRENT SITUATION: Existing battalion headquarters and classroom facilities cannot meet current requirements. Present permanent assets in this category can provide for 42 battalions. Although these facilities account for 76 percent of battalion headquarters required, a space deficit of 62 percent exists because they were constructed when space allowances were 6,100 square feet (SF) per battalion instead of the present allowance of 12,330 SF. The space shortage is further aggravated by preemption of 11 of these facilities by higher command and staff elements that are also short of space. As a result, barracks and administrative space has been					

1. COMPONENT ARMY	FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA	2. DATE 29 Apr 1981
3. INSTALLATION AND LOCATION Fort Hood, Texas		
4. PROJECT TITLE Battalion Headquarters and Classrooms		5. PROJECT NUMBER B404-432
11. REQUIREMENT: (Continued) CURRENT SITUATION: (Continued) diverted to accomodate the battalions. Inadequate facilities consist of 31 inadequate World War II temporary battalion headquarters buildings, 30 of which have 2,248 SF each and one of 3,746 SF including a classroom. Only four of these buildings presently house battalion headquarters, the most of the others being used for support and service activities because of the restructuring of units and an on-going barracks modernization program. IMPACT IF NOT PROVIDED: Adequate facilities will not be available to house the battalion upon its activation at Fort Hood. Existing substandard buildings will be used causing further crowding and displacement of organizations and impairing the mission accomplishment of affected organizations.		

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Polk, Louisiana			4. PROJECT TITLE Battalion Headquarters and Classrooms		
5. PROGRAM ELEMENT 22611A	6. CATEGORY CODE 171	7. PROJECT NUMBER B305-214	8. PROJECT COST (\$000) 2,700		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Primary Facility				1,900	
Buildings w/Mechanical Rooms (2)	SF	27,398	64.50	(1,767)	
Solar	SF	26,600	5.00	(133)	
Supporting Facilities				552	
Utilities			LS	(138)	
Paving, Walks, Curb & Gutter			LS	(201)	
Site Improvement			LS	(49)	
Building Relocation			LS	(110)	
Communications			LS	(54)	
Subtotal				2,452	
Contingency (5%)				123	
Total Contract Cost				2,575	
Supervision Inspection & Overhead (5%)				129	
Total Request				2,704	
Total Request (Rounded)				2,700	
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construction of two permanent fire resistant battalion headquarters and classroom buildings complete with required utilities services, fire protection, communications, paving, walks, curbs, gutter, site improvement and required building relocation. Heating by self-contained plant. Not sited in a flood plain. Air Conditioning - 127 Tons.					
11. REQUIREMENT: 222,830 SF Adequate: 107,630 SF Substandard: 43,916 SF PROJECT: Construction of two battalion headquarters buildings with classrooms at Fort Polk.					
REQUIREMENT: This project is required to provide permanent, adequate battalion headquarters and classrooms for the 5th Aviation Battalion and the 105th Combat Electronic Warfare Intelligence Battalions, organizations that will be assigned to the 5th Infantry Division. The battalions will be activated during FY 1982.					
CURRENT SITUATION: Adequate facilities do not exist at the installation for the battalions. Inadequate facilities can be provided with temporary World War II administrative buildings constructed in 1941. These buildings are located on north post six miles away from new barracks complexes at South Post.					
IMPACT IF NOT PROVIDED: The operational effectiveness of the battalion will be seriously impaired in the areas of command, control, classroom and administration as a result of travel that would be required between the organizations' billets and working areas.					

FOR OFFICIAL USE ONLY (WHEN DATA IS ENTERED)

1. COMPONENT ARMY	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981
3. INSTALLATION AND LOCATION Army Installations, Various Locations			
4. PROJECT TITLE Energy Conservation Facilities		5. PROJECT NUMBER See Below	
<u>Station</u>	<u>Project Title</u>	<u>(\$000) Cost</u>	
Fort Monmouth	Refuse-fired Boiler	6,600	
This project is required to conserve fuel oil by modifying two of the four existing 590 Horse-Power Oil boilers in Central Steam Plant 1220 to accept processed garbage (Refuse Derived fuel) as a fuel. Modification will include alteration of five boxes; new stoking and ash removal systems; RDF storage, charging and ash removal bins and equipment; stack, induced draft fans; electro-static precipitators and controls as required to result in a complete usable facility. Firing the RDF boilers will result in reduced operation of the two remaining oil-fired boilers. The installation will meet federal and state air pollution control guidelines. The estimated first year savings is \$1,250,000. The amortization period is 5.3 years. The estimated MBTU energy savings per year per thousand dollars project cost ratio is 27.			

DD FORM 1391c

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO

FOR OFFICIAL USE ONLY (WHEN DATA IS ENTERED)

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Benning, Georgia			4. PROJECT TITLE Ammunition Storage Facilities		
5. PROGRAM ELEMENT B5796A		6. CATEGORY CODE 422		7. PROJECT NUMBER B301-332	
				8. PROJECT COST (\$000) 2,450	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
<u>Primary Facility</u>					653
Admin & Change House		SF	8,240	58.90	(485)
Solar		SF	8,240	5.00	(41)
See Cost Estimates (Continued)					(127)
<u>Supporting Facilities</u>					1,564
Electric Service				LS	(420)
Water, Sewer, Gas				LS	(119)
Paving, Walks, Curb & Gutter				LS	(684)
Site Improvement (239), Demolition (23)				LS	(262)
Communications (40) IDA System (39)				LS	(79)
Subtotal					2,217
Contingency (5%)					111
Total Contract Cost					2,328
Supervision Inspection & Overhead (5%)					116
Total Request					2,444
Total Request (Rounded)					2,450
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construct permanent fire resistant buildings to include an administration/change house, guard house, storage shed for forklifts with battery charging equipment, three male/female latrines with septic tank and disposal field and concrete ramps and loading docks at existing igloos. Work includes provision of required utilities services, fire protection systems, communications, roads, paving, walks, curb and gutter, fencing and security lighting and miscellaneous site improvements. Heating from self-contained, oil-fired plants. Demolish two buildings (13,326 SF). Not sited in a flood plain. Air Conditioning - 23 Tons.					
11. REQUIREMENT: 8,240 SF Adequate: None Substandard: 4,291 SF					
PROJECT: Construction of new facilities at the Ammunition Storage Installation (ASI), Fort Benning.					
REQUIREMENT: This project is required to provide adequate, permanent facilities to replace inadequate, temporary facilities for the operation of the ASI and to elevate existing security means to acceptable current standards.					
CURRENT SITUATION: The existing administrative building is a temporary structure, not large enough to accommodate the work force. Forklifts cannot be used efficiently and safely because of dirt roads and the lack of ramps and loading docks at some igloos and magazines. These conditions also apply to the delivery of ammunition by tractor trailers and pick up of ammunition by using military personnel. Additionally, these conditions necessitate breaking down palletized ammunition and unloading it by hand with unnecessary waste of time. There are no latrine facilities within					

1. COMPONENT ARMY	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Benning, Georgia				
4. PROJECT TITLE Ammunition Storage Facilities			5. PROJECT NUMBER B301-332	
9. Cost Estimates (Continued)				
<u>Item</u>	<u>U/M</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Cost (\$000)</u>
Primary Facility (Continued)				
Guard House	EA	1	17,650	18
Latrines	EA	3	10,800	32
Recharge & Storage Shed	SF	480	22.10	11
Oil-fired Htg Plant & 1,500 gal UG Tank			LS	66
			Total	127
11. REQUIREMENT: (Continued)				
CURRENT SITUATION: (Continued)				
the ASI, and personnel must walk or ride to the administrative building to use its facilities. Igloos and magazines have no intrusion detection devices or heat detectors, and some have no power for lighting. There is no security lighting at the ASI perimeter fence.				
IMPACT IF NOT PROVIDED: Existing inadequate facilities will continue in use with adverse impact on operational effectiveness of the ASI and inadequate security of the ammunition stored there.				

1 COMPONENT ARMY		FY 1582 MILITARY CONSTRUCTION PROJECT DATA		2 DATE 29 Apr 81	
3 INSTALLATION AND LOCATION Harvey Barracks, Kitzingen, Germany			4 PROJECT TITLE Senior Enlisted Quarters and Barracks Renovation		
5 PROGRAM ELEMENT 22396A	6 CATEGORY CODE 721	7. PROJECT NUMBER B951-B08	8 PROJECT COST (\$000) 3,900		
9 COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Primary Facility					
Senior Enlisted Barracks	SF	16,533	88.88	2,888	
Renovate Building 167 (BOQ)	SF	10,954	88.25	(1,455)	
Renovate Buildings 168, 169 (SEBQ)	SF	26,508	38.25	(419)	
				(1,014)	
Supporting Facilities					
Electric Service (26) Communications (13)			LS	572	
Gas, Water, Sewer			LS	39	
Steam Distribution (10) Storm Drainage (23)				121	
Paving, Walks, Curb & Gutter			LS	33	
Site Preparation			LS	92	
Subtotal				287	
Contingency (5%)				3,460	
Total Contract Cost				173	
Supervision Inspection & Overhead (6.5%)				3,633	
Total Request				236	
Total Request (Rounded)				3,869	
Installed Equipment - Other Appropriations				3,900	
10 DESCRIPTION OF PROPOSED CONSTRUCTION Construct a 50 senior enlisted personnel barracks building and upgrade existing Building 167 (officer's barracks) and upgrade Buildings 168 and 169 (senior enlisted barracks). New construction to include laundry rooms, latrines, billet rooms and kitchen facilities arranged in "living units", parking and site improvement. Buildings 167, 168 and 169 to include upgrade to heating, electrical, plumbing, and architectural systems. Provisions will be made for the handicapped.					
REQUIREMENT: 1,595 MN Adequate: 1,130 MN Substandard: 81 MN					
PROJECT: Construct a senior enlisted barracks and upgrade three barracks.					
REQUIREMENT: This project is needed to provide adequate billets on-post for bachelor/unaccompanied senior enlisted and officer personnel. The existing facilities need to be upgraded to meet building standards and maintain useability. A new barracks building is needed to provide on-post housing for current personnel and projected personnel increases.					
CURRENT SITUATION: Existing billets cannot accommodate present housing requirements, let alone future requirements. Personnel must compete on the local economy with families and the local citizens for scarce housing. The high cost and limited availability places a hardship on the personnel involved and the local community. The resulting adverse impact on morale, and operational control affects the entire mission. Existing barracks are World War II facilities that have deteriorated over past years. The facilities are inefficient, worn, and do not comply with basic life/safety or building codes. The facilities are needed to maintain the number of available billets. No other on-post facilities are available for use or for conversion as barracks.					

1. COMPONENT ARMY	FY 1982 MILITARY CONSTRUCTION PROJECT DATA	2. DATE 29 Apr 81
3. INSTALLATION AND LOCATION Harvey Barracks, Kitzingen, Germany		
4. PROJECT TITLE Senior Enlisted Quarters and Barracks Renovation		5. PROJECT NUMBER B951-808
IMPACT IF NOT PROVIDED: There will be insufficient billets to meet the housing requirements. Existing barracks will remain in use, where possible. Off-post housing will be utilized if available.		

FOR OFFICIAL USE ONLY (WHEN DATA IS ENTERED)

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Polk, Louisiana			4. PROJECT TITLE Company Administration and Supply Building		
5. PROGRAM ELEMENT 22611A	6. CATEGORY CODE 723	7. PROJECT NUMBER B406-213	8. PROJECT COST (\$000) 4,990		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility					3,664
Company Admin & Supply Bldgs (2)		SF	49,749	68.80	(3,422)
Solar		SF	48,300	5.00	(242)
Supporting Facilities					861
Utilities				LS	(188)
Paving, Walks, Curb & Gutter				LS	(477)
Site Improvement				LS	(123)
Communications				LS	(73)
Subtotal					4,525
Contingency (5%)					226
Total Contract Cost					4,751
Supervision Inspection & Overhead (5%)		-			238
Total Request					4,989
Total Request (Rounded)					4,990
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION Construction of two separate company administration and storage buildings for five companies each, to include utilities, communications, roads, parking and site improvement. Not sited in a flood plain. Heating from a self contained unit. Air Conditioning - 80 Tons. REQUIREMENT: 560,671 SF Adequate: 257,100 SF Substandard: 352,671 SF PROJECT: Construct two buildings for company administration and storage. REQUIREMENT: This project is needed to provide administration and supply space in support of ten companies to be activated at Fort Polk and attached to the 5th Aviation Battalion and the 105th Communications Electronics Warfare Intelligence Battalion (CEWI), in the 5th Infantry Division. CURRENT SITUATION: There are no permanent type facilities that can meet this requirement. Temporary type world War II mobilization buildings that are located 6 miles away at North Fort need extensive upgrade and maintenance work, are beyond their economic life, and could only serve as interim facilities. IMPACT IF NOT PROVIDED: Adequate administration and storage buildings will not be available upon implementation of the proposed stationing action, adversely affecting unit performance.					

DD FORM 1391

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO

FOR OFFICIAL USE ONLY (WHEN DATA IS ENTERED)

1. COMPONENT ARMY		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 29 Apr 1981	
3. INSTALLATION AND LOCATION Fort Irwin, California			4. PROJECT TITLE Company Administration and Supply Building		
5. PROGRAM ELEMENT 22611A	6. CATEGORY CODE 723	7. PROJECT NUMBER B604-140	8. PROJECT COST (\$000) 2,050		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
<u>Primary Facility</u>					1,761
Building		SF	24,150	67.95	(1,640)
Solar		SF	24,150	5.00	(121)
<u>Supporting Facilities</u>					81
Electric Services				LS	(29)
Water, Gas, Sewer				LS	(20)
Paving, Walks, Curb & Gutter				LS	(23)
Site Improvement				LS	(9)
Subtotal					1,842
Contingency (5%)					92
Total Contract Cost					1,934
Supervision Inspection & Overhead (5%)					97
Total Request					2,031
Total Request (Rounded)					2,050
Installed Equipment - Other Appropriations					
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Construction of an administration and supply building for five companies, to include utilities, communications, sidewalks, and parking. Temporary type buildings will be demolished for this project. Provisions will be made for the handicapped. Not sited in a flood plain. Heating from self contained units. Air Conditioning - 80 Tons.					
11. REQUIREMENT: 75,230 SF Adequate: 12,134 Substandard: None					
PROJECT: Construct an administration and supply building.					
REQUIREMENT: This project is needed to provide administration and supply space for five companies of an Armor Battalion that is to be activated as part of the National Training Center permanent party staff.					
CURRENT SITUATION: There are no facilities available for use that meet this requirement, nor are there facilities expected to become available for use or for conversion.					
IMPACT IF NOT PROVIDED: The date that the National Training Center becomes fully operational will be delayed, and the training requirements cannot be implemented to the degree necessary.					

Senator THURMOND. You have requested increased authorization for prior year Military Construction Authorization Acts. Justify this increase. Provide a list of projects that will not be executed unless this increase in authorization is approved.

ANSWER. Excessive inflation growth during fiscal year 1980 caused the deferral of some authorized fiscal year 1980 projects or a reduction in scope of other projects to preclude delay in providing the most essential projects. Because the deferred projects are essential to the Army, they have been included in the fiscal year 1982 Appropriation request. Sufficient authorization is not available within Title I to absorb the increased funding. In accordance with guidance provided by the Committees in fiscal year 1980 and 1981, Section 603 Cost Variations are requested in lieu of new Authorization for the following projects:

Fiscal Year 1980 projects requiring deficiency authorization

	Request (thousands)
Hunter Liggett, Calif. : PN 64 company administration and supply-----	\$520
Fort Ord, Calif. : PN 305 dining facilities-----	3, 850
Fort Stewart, Ga. : PN 250 Nondivision direct support maintenance shop-----	1, 100
Schofield Barracks: PN 98 dental clinic-----	1, 050
Fort Polk, La. : PN 222 tactical equipment shop and facilities-----	4, 250
Fort Ritchie, Md. : PN 92 upgrade air conditioning-----	1, 600
Seneca Army Depot, N.Y. : PN 78 barracks without dining-----	510
Letterkenny Army Depot, Pa. : PN 109 ammunition and test facility-----	2, 200
Corpus Christi, Tex. : PN 52 advanced power training and test facility----	2, 350
Fort Hood, Tex. : PN 442 company administration and supply-----	1 530
Lone Star Army Ammunition Plant, Tex. : PN 11 central ammunition container facility-----	920
Red River Army Depot, Tex. : PN 84 replace boilers-----	19, 000
Fort Eustis, Va. : PN 322 energy control system-----	980
Total -----	38, 860

¹ This project is no longer required because recent favorable bids for this project permitted award of the entire project within the authorized amount.

FISCAL YEAR 1981 PROJECT REQUIRING DEFICIENCY AUTHORIZATION

The Fort Carson hospital was authorized in fiscal year 1981 at \$87,360,000. However, the Appropriation included \$10,000,000 for the site work portion of the project. Funds to construct the hospital are included in the fiscal year 1982 Appropriation Request. The \$3,640,000 deficiency authorization represents construction cost growth associated with the year delay in construction.

CONSTRUCTION BACKLOG AND EXPENDITURES

Senator THURMOND. Last year you reported that your construction backlog was growing in constant dollars terms. Update your charts and discussions from last year's testimony.

ANSWER. The Army's construction backlog since fiscal year 1975 is as follows:

MCA BACKLOG
[In billions of dollars]

Program year	Amount	Constant dollars
1975-----	\$7.5	\$13.5
1976-----	8.1	13.4
1977-----	7.7	11.6
1978-----	7.7	10.8
1979-----	11.7	15.1
1980-----	13.1	15.5
1981-----	15.2	16.5
1982-----	16.3	16.3

The figures presented indicate the backlog was consistent in constant dollars during the 1974-1976 period, took a dip down during 1977 and 1978 and has grown since the 1979 period. In 1979, the Army increased its efforts to document all known construction requirements to get a more accurate picture of the problem and has determined that most of this growth can be related to increased requirements for improved construction standards for soldiers and their families, emphasis and identification of energy conservation, pollution abatement and other statutory requirements, and increased emphasis on Army readiness and force modernization. The areas where the largest growth has occurred are in the training, maintenance, troop housing, community facilities and in the utility, energy conservation and pollution abatement areas.

The decrease in constant dollars from 1981 to 1982 was the result of an indepth Army validation study conducted by all levels of command. The study eliminated 1559 projects or \$3.5 billion and added 690 valid projects or \$2.2 billion. Except for USAREUR, the Army for the first time obtained an accurate picture of its military construction requirements. A major portion of USAREUR's previously undocumented construction requirements (\$3.7 billion) is currently being reviewed by DA and will significantly increase the backlog total for next year if approved.

With an estimated backlog of this magnitude, current funding levels preclude significant reduction in the overall total. Newly initiated mission requirements, improved identification of plant replacement/modernization requirements and rapidly growing construction costs in combination have thus far offset efforts to reduce the backlog.

Senator THURMOND. Similarly update your testimony and charts from last year's transcript regarding construction expenditures.

ANSWER. Military construction appropriations for the Army are as follows:

MILITARY CONSTRUCTION, ARMY

[In thousands of dollars]

Year	Program	Constant
1964	202,821	689,959
1965	365,434	1,215,112
1966	1,096,046	3,487,250
1967	494,833	1,550,500
1968	498,883	1,476,176
1969	501,414	1,327,397
1970	373,710	962,186
1971	563,955	1,286,752
1972	461,788	933,020
1973	587,659	1,080,550
1974	705,524	1,261,329
1975	649,588	1,060,342
1976	721,470	1,081,106
1977	635,138	872,005
1978	617,382	784,995
1979	764,882	901,486
1980	726,649	784,272
1981	892,234	892,234

The large appropriations indicated in constant dollars during the 1965-1971 period include appropriations for Vietnam and related construction. The highest appropriation for military construction, excluding Vietnam, in constant dollars occurred in 1974 and has since that time decreased.

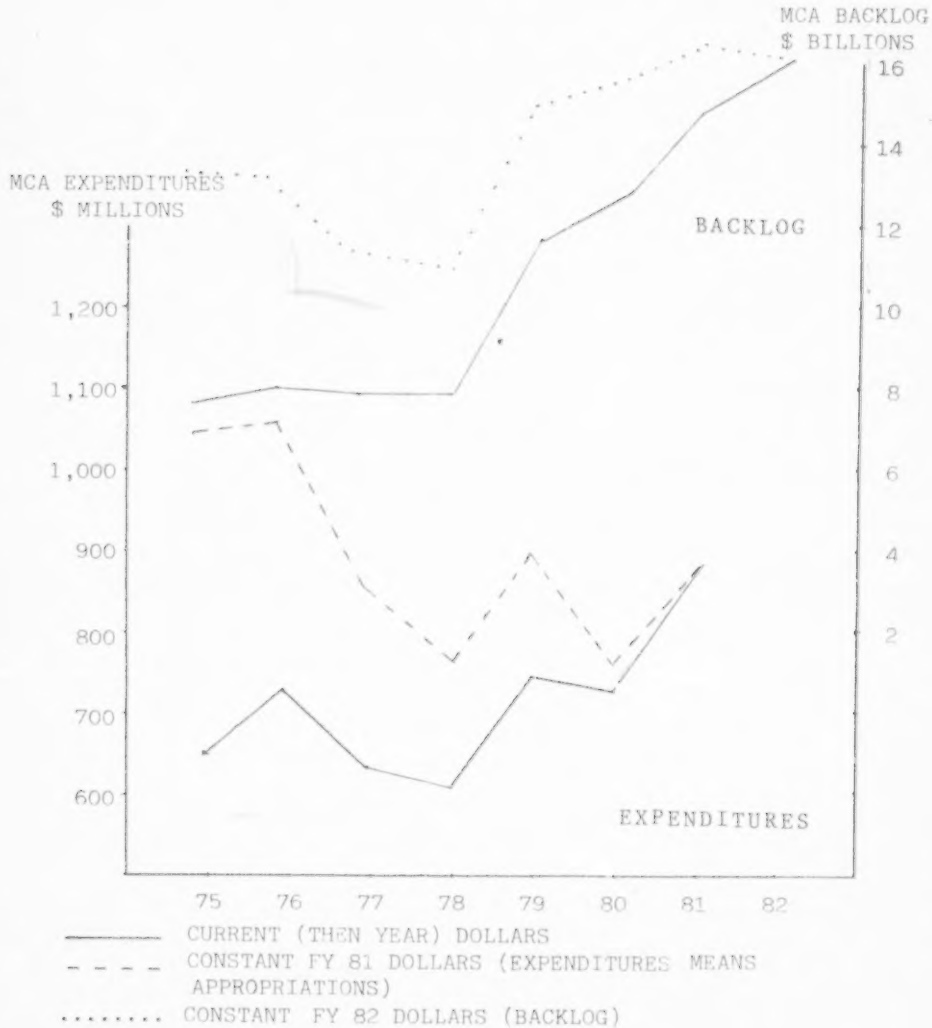
Since fiscal year 1975, a steady increase in construction funds devoted to non-military and directed Army initiatives or programs has caused the MCA program to be resourced below what is required to arrest the growing backlog. Directed programs (that is, pollution abatement, energy conservation, safety, force modernization, etc.) contribute directly to backlog growth and, because the MCA program has thus far absorbed them without a commensurate increase in funds, the Army has been unable to sustain an acceptable plant replacement schedule.

CONSTRUCTION BACKLOG AND EXPENDITURES

Senator THURMOND. Provide a graph showing construction backlog and construction expenditures, both in constant and then-year dollars, identifying and discussing any anomalies.

ANSWER. The requested graph follows. Most of the backlog increase has occurred at the same time that pollution abatement, safety and energy conservation programs have received increasing amounts of funding thereby having less resources for reducing the Army's backlog.

CONSTRUCTION BACKLOG AND EXPENDITURES



Senator THURMOND. The subcommittee is adjourned.

[Whereupon, at 10:52 a.m. the subcommittee hearing was adjourned.]

MILITARY CONSTRUCTION AUTHORIZATION FISCAL YEAR 1982

MONDAY, MAY 4, 1981

U.S. SENATE,
SUBCOMMITTEE ON MILITARY CONSTRUCTION,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

NAVY AND AIR FORCE PROGRAMS

The subcommittee met at 9:01 a.m., pursuant to notice, in room 224, Russell Senate Office Building, Senator Strom Thurmond, chairman, presiding.

Present: Senator Thurmond.

Other Senators present: Senators Melcher, and Baucus.

Staff present: James C. Smith, professional staff member and Marie Fabrizio Dickinson, staff assistant.

Also present: Chris Lehman, assistant to Senator Warner; Bill Furniss, assistant to Senator Quayle; Jon A. Schreiber, assistant to Senator Denton, Paul Schreiber, assistant to Senator Denton; and Greg Pallas, assistant to Senator Exon.

OPENING STATEMENT BY SENATOR STROM THURMOND, CHAIRMAN

Senator THURMOND. The subcommittee will come to order.

Today we are continuing our hearings on S 834, the fiscal year 1982 military construction authorization bill. I am planning to finish our hearings with this session and we will hopefully get to markup next week.

Our first witnesses will be from the Navy. Admiral Zobel, Chief of Naval Facilities Engineering Command, will be our principal witness. This is Admiral Zobel's first appearance before us in his capacity as the Navy's chief engineer and I know he will do well. He is from Charleston, S.C. Brigadier General Petersen will represent the Marine Corps.

The Navy's program is quite large—\$1,175,283,000 in new construction authority. Major requests include the first increment of funds for a new east coast Trident base and continued authorization for construction of Middle East bases.

Following the Navy, the Air Force will cover their construction programs. Brigadier General Wright, also in his first appearance before the committee, will present the Air Force testimony.

I would like to continue with the ground rules that we established in our earlier hearings. All sessions will begin open. If the need develops to get into classified matter, we will recess briefly to go into executive session. I look to the witnesses to advise the Chair any time that we get into classified information.

Finally, we have little time until markup. There will be questions for the record and I ask that they be answered promptly. I need your commitment to get responses to questions for the record returned to the committee within 7 days. I presume you can meet that schedule.

Admiral ZOBEL. Yes, sir.

**STATEMENT OF REAR ADM. W. M. ZOBEL, CEC, USN, COMMANDER,
NAVAL FACILITIES ENGINEERING COMMAND, DEPARTMENT OF
THE NAVY**

Admiral ZOBEL. Thank you, Mr. Chairman.

If I may, I would like to submit my complete statement for the record and address two special topics from my statement.

Senator THURMOND. Without objection, your entire statement will go into the record, and in making any other remarks if you can prevent duplication, it will be appreciated.

Admiral ZOBEL. Yes, sir.

COST ESTIMATING

The first topic is cost estimating. In times of rapidly rising construction costs we are often called upon to explain why estimates can vary from the budget request. Our objective, obviously, is to prepare the best possible cost estimates that we can. We don't want them to be too high, because that reduces the amount of projects that we can get within the overall program total.

We certainly don't want them to be too low, because, if our estimates are too low, then we must come back to the Congress for cost variation and reprogramming actions. We object to that. Also we want to minimize the number of projects that have scope reductions.

If our estimates are high, we generate savings but do not have authority to use these savings. No statutory basis exists for reassigning military construction authorization from one installation to another.

If our estimates are low, construction start will be delayed while we reduce scope, redesign, or process cost variation and reprogramming actions. The delay results in increased costs.

We do our best to prepare accurate estimates. Some vary up or down because: We are dealing with estimates determined at least 18 months before the construction bid and award is made; the degree of bidder interest probably affects the cost of projects more than any other single factor; and uncontrollable and unforeseen economic factors of supply and demand sometimes causes the price of a particular material or a particular skill to rise or fall at a rate far in excess of the overall rate of inflation.

I wanted to make those points on our estimates. We do believe that our estimates are the best that can be made considering the lead-time. We are happy to note that the GAO recently made a comment in a

report that they thought the Navy's estimates were about as good as could be expected with those lead-times.

PROGRAMING

In programing, we are sometimes asked the question of, "why the particular activity's priority projects are different from those that we bring before you?" As you or your staff visit an activity, the activity will indicate that their project priorities are such and such. We then come before you with a budget and the projects vary somewhat. That is because we have to prioritize all the Navy projects across the spectrum. Sometimes the individual activity's priorities are different from those of the Navy as a whole, because we have a lot of projects to get into a program.

That completes my remarks on specific topics, Mr. Chairman.

Now we would like to have Brigadier General Petersen present his statement and then answer any questions you may have on the Marine Corps before we proceed to the briefings on shore facilities for a 600-ship Navy, and updates of the Trident program and Indian Ocean facilities' construction.

[The prepared statement of Admiral Zobel follows:]

PREPARED STATEMENT OF REAR ADM. W. M. ZOBEL, CEC, U.S. NAVY, COMMANDER, NAVAL FACILITIES ENGINEERING COMMAND

Mr. Chairman and Members of the Committee: I am Rear Admiral W. M. Zobel, Commander of the Naval Facilities Engineering Command.

I welcome the opportunity to review the Navy's military construction budget. Brigadier General Frank E. Petersen, United States Marine Corps, will review the Marine Corps' portion of the budget.

FISCAL YEAR 1982 MILITARY CONSTRUCTION AUTHORIZATION

This year, the authorization request is \$1 billion, 175 million in new authority. For comparison, the fiscal year 1981 authorization was \$990 million, which included \$293 million for the San Diego Hospital. The slight increase this year results from a recognition of the shortfalls in prior-year military construction budgets.

First, I have some brief comments on special interest topics and then the authorization request is reviewed by major command.

COST ESTIMATING

In times of rapidly rising construction costs, the military departments are repeatedly called upon to explain the reasons why their estimates vary from the budget request. Our objective is to prepare cost estimates with a degree of accuracy which will:

- (1) Maximize the number of projects included in an annual budget.
- (2) Minimize the number of projects with cost variations and reprograming actions.
- (3) Minimize the number of projects with scope reductions.

If our estimates are high, we generate savings but do not have authority to use these savings. No statutory basis exists for reassigning military construction authorization from one installation to another. If our estimates are low, construction start will be delayed while we reduce scope, redesign or process cost variation and reprograming actions. The delay results in increased costs, generally not a problem in a given fiscal year, but may have unsatisfactory long-term implications.

We do our best to prepare accurate estimates and it was reassuring to have the General Accounting Office in a draft report last year state and I quote: "In general services' cost estimating procedures for military construction projects ap-

pear reasonable." The report accurately pointed out that variance in budget estimates and contract costs were influenced by the degree of bidder interest in a particular project, fluctuations in costs of certain materials and labor, and delays in bid opening. The GAO report raised the question: "Why actual costs vary from budget estimates?" and answered the question this way:

1. "Because we are dealing with estimates, determined at least 18 months before the construction bid and award is made, the actual cost will ultimately be something less or something more than the budget estimate submitted to the Congress. Even if estimates are made based on the most accurate information available, the actual cost on any project is so influenced by the bidding climate, and the contractors economic condition and motivation at the time the bid is made, it is not unusual for the contract amount to be above or below the estimated amount."

2. "The degree of bidder interest probably affects the costs of projects more than any other single factor. When several contractors are interested in a project, the competition often results in lower bids. Conversely, when only two or three contractors bid, the cost is apt to be higher. Bidder interest is affected by such factors as the type and location of the project and the amount of other construction work available to the potential bidders."

3. "Another reason for differences between costs and budget estimates is fluctuations in costs of certain materials and labor. Uncontrollable and unforeseen economic factors of supply and demand sometimes cause the price of a particular material or a particular skill to rise or fall at a rate far in excess of the overall rate of inflation. Therefore, when a particular project includes significant quantities of one or more of these fast changing items the budget estimate may not reflect their prices at the time of the bid opening. Suppliers are reluctant to quote to Government estimators the same cost data they give to their favored customers."

4. "In view of the magnitude of the military construction program, the lead time required in preparing, processing, and approving the budget, and the number of variables, both known and unknown, involved in cost estimating, we believe that, on balance, the services do a creditable job of estimating costs for hundreds of projects each year."

We believe GAO is correct in their assessment of why costs vary from budget estimates. However, this does not solve the problems facing us at budget time. Therefore, we continue to seek improvement in cost estimating. We will have cost variations and reprogramming actions, but you can be assured that we strive to keep them to a minimum.

PROGRAMING

Another question often asked of the military departments is general prefaced by this statement: "The commanding officer of naval installation (blank) advises that a project for a new (blank) is his highest priority." Then comes the question, "why isn't this project in this year's budget?" This is a good question which we sometimes fail to answer convincingly. A convincing answer is difficult, because as in cost estimating, there are many variables within a given military construction budget amount. Further, the military construction budget amount is established in competition with other appropriations such as shipbuilding and conversion, Navy; aircraft procurement, Navy; and weapons procurement, Navy. Given the competition and numerous variables within the military construction budget: "How does the Navy budget for military construction?" Budget presentation to Congress is preceded by two key steps, planning and programming, which I need to review briefly to answer the question posed.

The planning process identifies the facilities requirements based on missions and tasks assigned each naval installation by the Chief of Naval Operations. The mission and tasks of a naval installation are defined more precisely by a force distribution report that projects base loadings for the next 8 years in terms of personnel, ships, aircraft, and tenants. This force distribution is translated into facilities requirements to accomplish assigned missions and tasks. As a part of planning, facilities requirements are compared with assets to determine deficiencies or excesses. If we have excesses, the solution is simple; we mothball, convert to a use for which a deficiency exists, or dispose of the excess facilities. If a facility deficiency exists, the requirement is validated by Navy's facility planning system and entered into the military construction facilities requirements list.

Programing starts at this point and its foundation is annual guidance provided by the Office of the Secretary of Defense setting forth the proposed resources for the Navy for the next 5 years to accomplish its missions and tasks within national strategy. The Chief of Naval Operations distributes these resources to Navy organizations called resource sponsors, who are basically oriented to major Navy mission responsibilities. The resource sponsor determines, within his resources, how best to accomplish his mission. If you are the air warfare resource sponsor you must make decisions on how much of your program to devote to aircraft, missiles, carriers, repairs, plant maintenance, replenishment spares and new or replacement facilities. If you elect to program resources to military construction to build a new hangar, you have decided to defer some hardware acquisition or maintenance. Each resource sponsor makes similar decisions. The military construction budget level is also impacted by national programs such as pollution abatement and energy. At an annual meeting, fleet and major commanders advise resource sponsors on the most urgent facility requirements. The projects in the military construction budget then reflect the highest priorities of the Navy for a given budget. Because of variables mentioned before, the budget formulation is an iterative process and subject to change. The point I wish to stress is that we have a logical system that gives us confidence in the decisions made to request authority and funding for certain projects this year and to defer others to future budgets.

OFFICE OF NAVAL RESEARCH

For the Office of Naval Research, we are requesting \$12.7 million for major construction and \$190,000 for minor construction. The major construction will provide space for an oceanographic sciences laboratory at the Naval Ocean Research and Development Activity, Bay St. Louis, Mississippi; and energy conservation improvements at the Naval Research Laboratory, Washington, D.C.

CHIEF OF NAVAL OPERATIONS

For those installations under the direct management control of the Chief of Naval Operations, the major construction request is \$121.4 million, of which \$33.3 million is for construction outside the United States. Also requested is \$630,000 for minor construction. Included in the major construction total inside the United States is \$23.1 million for the Naval Submarine Base, Bangor, Wash., and \$65.1 million for the Naval Submarine Support Base, Kings Bay, Ga.

At the Naval Submarine Base, Bangor, Wash., the significant projects will provide administrative space, a commissary and a supply support facility. Other projects will provide a child care center, improvements to the rifle range and explosive handling wharf, and a magnetic silencing facility protection system.

For the Naval Submarine Support Base, Kings Bay, Ga., \$65.1 million is requested to provide initial utilities and site improvements and dredging for the first phase of an east coast Trident base, a warehouse, an administrative building, enlisted personnel housing, and a child care center.

COMMANDER IN CHIEF, ATLANTIC FLEET

The request for the Commander in Chief, Atlantic Fleet is \$158.2 million for major construction. Of this total \$5.2 million is for construction outside the United States. Also requested is \$2 million for minor construction.

The significant projects inside the United States include a \$12.8 million boiler plant modifications project for the Naval Air Station, Brunswick, Maine. This project will convert the central heating plant from oil-fired to a combined wood-oil-fired plant. Savings in operational costs will return the capital investment in 9 years. A \$12.2 million project for a maintenance hangar for F/A-18 aircraft at the Naval Air Station, Cecil Field, Fla., will provide space for an expanded training mission and maintenance of 45 additional aircraft. At the Naval Station, Charleston, S.C., a \$5 million project for enlisted personnel housing will provide space for 300 personnel uninhabitable ships in overhaul.

Significant projects at the Naval Amphibious Base, Little Creek, Va., will provide improved space for intermediate maintenance ashore of amphibious ships, enlisted personnel housing modernization for 785 men to eliminate a deficiency in barracks space, and an operations building for special warfare teams sea-air-land and underwater demolition teams. Amounts requested for the shore inter-

mediate maintenance activity, housing and special warfare operations building projects are \$8.4 million, \$9.8 million and \$6 million, respectively.

For the Naval Submarine Base, New London, Conn., a project for \$12.8 million will provide spaces for 780 men to correct severely overcrowded conditions.

At the Naval Station, Norfolk, Va., \$35 million will provide a new berthing pier capable of simultaneously berthing two aircraft carriers or amphibious assault ships. Also at the naval station, \$8.2 million will provide enlisted personnel housing for 756 unaccompanied enlisted personnel.

For the Naval Air Station, Oceana, Va., \$8.6 million will construct adequate housing for 756 unaccompanied enlisted personnel.

COMMANDER IN CHIEF, PACIFIC FLEET

The request for the Commander in Chief, Pacific Fleet is \$283.2 million, \$193.5 of which is for construction outside the United States. Also requested is \$2.9 million for minor construction.

The significant projects inside the United States include \$7.5 million for pier improvements at the Naval Air Station, Alameda, Calif.; \$7.2 million for an enlisted personnel housing modernization project to house 584 personnel at the Naval Air Station, Barbers Point, Hawaii; and \$8.3 million for a maintenance hangar at the Naval Air Station, Fallon, Nev.

The Naval Station, Long Beach, California, is to be re-established as an active ship homeport to relieve crowded conditions in San Diego. The waterfront improvements project for \$22 million will provide adequate pier space, utilities, and water depth to accommodate 27 ships being reassigned from San Diego.

Other significant projects inside the United States include \$12.5 million for an applied instruction building to provide operational and maintenance training for personnel of Lamps Mark III helicopter squadrons at the Naval Air Station, North Island; \$9.4 million and \$6.4 million for enlisted personnel housing projects at the Naval Station and Naval Submarine Base, Pearl Harbor, Hawaii. The enlisted personnel housing projects will house 430 and 288 personnel, respectively.

NAVAL EDUCATION AND TRAINING COMMAND

We are requesting \$59.3 million for major construction for the Naval Education and Training Command and \$1.1 million for minor construction. Three of the four major projects included in this request are for enlisted personnel housing. They are \$8.8 million for 600 personnel at the Naval Training Center, Great Lakes, Illinois; \$6.3 million for 504 personnel at the Naval Air Station, Memphis, Tennessee; and \$6.3 million for 588 personnel at the Naval Training Center, Orlando, Florida. Other projects are for a \$5.1 million applied instruction building to provide facilities for personnel undergoing the rigorous physical fitness training syllabus for naval aviation, at the Naval Air Station, Pensacola, Florida, and \$6.8 million operational trainer facility to train personnel in operation of tactical command and control systems at the Fleet Combat Training Center, Pacific, San Diego, California.

BUREAU OF MEDICINE AND SURGERY

For the Bureau of Medicine and Surgery, the request is \$4.7 million for a \$3 million medical clinic modernization project at the Naval Regional Medical Clinic, Annapolis, Maryland, and \$1.7 million for two facility energy improvement projects.

NAVAL MATERIAL COMMAND

For the Chief of Naval Material, we are requesting \$354.8 million for major construction to provide facilities for logistic support of the fleet. Also requested is \$2.6 million for minor construction.

At the Pacific Missile Range Facility, Barking Sands, Hawaii, \$8.1 million will improve an existing runway and construct a new parking apron.

The most significant project included in this request is \$150 million for a new coal-fired central steam plant building at the Puget Sound Naval Shipyard, Bremerton, Washington. The project will be funded and constructed in two phases. This year's appropriations request of \$37.6 million will procure boilers, related equipment, diesel generators, compressors and other long-lead time equipment, plus partially construct utilities and site preparation. The fiscal year 1983 appropriations request will construct boilers and equipment, complete utilities, demolish the existing plant and construct the new one. For the Puget Sound

Naval Shipyard, we are also requesting \$7.3 million for enlisted personnel housing for 440 personnel.

For the Naval Shipyard, Charleston, South Carolina, \$4.9 million will modernize and increase the storage capacity of the Navy-owned dredge spoil disposal area at the shipyard.

At the Naval Surface Weapons Center, Dahlgren, Virginia, \$4.9 million will construct an electronic systems laboratory for surface weapons systems to replace an existing facility which is inadequate to produce the quantity, quality, and type of support required by the fleet.

To handle an increase in jet aircraft engine repair and overhaul work at the Naval Air Rework Facility, Jacksonville, Florida, we are requesting \$25 million to construct a new metal components plating and cleaning shop facility to provide the process capability and quality required by military specifications and to comply with occupational safety and health standards.

For the Naval Undersea Warfare Engineering Station, Keyport, Washington, \$8.3 million will provide shop facilities for the development, evaluation, production, delivery and maintenance of the advanced light-weight torpedo.

We are also requesting \$16.5 million for another plating shop project at the Naval Air Rework Facility, Norfolk, Virginia, which will consolidate airframe, engine and propeller plating operations from three existing shops into a single new facility.

At the Naval Shipyard, Pearl Harbor, Hawaii, the request is \$4.9 million for a drydocks electrical improvement project and \$9.2 million for a fire protection pipeline.

Our shipyard modernization program this year is \$67 million for eight projects at seven shipyards.

Other projects include \$7.5 million for a facility energy improvements project and \$6.2 million for a compressed breathing air system improvement project, both at the Navy Public Works Center, Pearl Harbor, Hawaii; \$6.1 million for a sanitary sewage collection and treatment project at the Naval Ordnance Station, Indian Head, Maryland, and \$6.2 million for oil spill prevention at the Naval Supply Center, Norfolk, Virginia.

NAVAL TELECOMMUNICATIONS COMMAND

For the Naval Telecommunications Command, we are requesting \$8.7 million of which \$5.6 million is outside the United States. The \$3.1 million requested in the United States will provide for two stand-by generator plants; one will be for the Naval Communications Area Master Station Eastern Pacific, Lualualei, Hawaii; and the other for the Naval Communications Station, Stockton, California. Also requested is \$920,000 for minor construction.

NAVAL SECURITY GROUP COMMAND

The request for the Naval Security Group Command is \$9 million, with the inside the United States and outside the United States portions being \$5.5 million and \$3.5 million, respectively. At the Naval Security Group Activity, Adak, Alaska, \$5.5 million will provide for a personnel housing modernization project for 90 personnel, an ocean surveillance facility upgrade and a water pollution abatement project.

OUTSIDE THE UNITED STATES

CHIEF OF NAVAL OPERATIONS

For the Chief of Naval Operations outside the United States, we are requesting \$33.2 million for two projects. The land acquisition project for \$33.2 million will acquire a 50-year lease with 50-year renewal option for approximately 18,200 acres on three separate islands in the Marianas. The property to be leased will be used for amphibious military exercises, mobilization and long-range Department of Defense contingency plans for the Far Eastern Pacific; a target area for aircraft bombing and ship-to-shore shelling and other defense purposes.

COMMANDER IN CHIEF, ATLANTIC FLEET

For the Commander in Chief, Atlantic Fleet outside the United States, \$5.2 million will provide a support facilities expansion project at the Naval Facility, Brawdy, Wales, United Kingdom and a child care center at the Naval Station, Reykjavik, Iceland.

COMMANDER IN CHIEF, PACIFIC FLEET

Of the \$193.5 million requested for this command outside the United States, \$122.8 million is for the Navy Support Facility, Diego Garcia, Indian Ocean. This facility expansion project includes airfield improvements, waterfronts facilities and other facilities to support a rapid deployment force in the Indian Ocean area.

Other projects included in this request are \$6.7 and \$5.4 million for two enlisted personnel housing projects at the Naval Air Station, Cubi Point, Republic of the Philippines. One of the projects will provide new spaces for 400 enlisted personnel and the other will replace air conditioning systems in 12 personnel housing buildings. At the Naval Station, Subic Bay, Republic of the Philippines, we are requesting \$6.8 million for an enlisted personnel housing project for 360 personnel.

For naval activities in Kenya, we are requesting \$26 million for base support facilities and harbor improvements.

For naval activities in Somalia, we are requesting \$24 million for expansion of port and airfield facilities.

COMMANDER IN CHIEF, NAVAL FORCES EUROPE

The request for Commander in Chief, Naval Forces Europe is \$21.4 million. The significant project is a \$9.2 million maintenance hangar improvements project at the Naval Air Facility, Sigonella, Italy. This project will modernize and expand facilities for organizational and intermediate level maintenance of aircraft assigned, deployed, or temporarily shore-based at this Central Mediterranean operating and logistics base. Other projects include two personnel housing projects for 576 personnel and an aircraft ground support equipment shop.

NAVAL TELECOMMUNICATIONS COMMAND

For the Naval Telecommunications Command outside the United States, the request is \$5.6 million for major construction and \$920,000 for minor construction, the major construction will provide an antenna tower and helix house at the Naval Communication Station, Keflavik, Iceland and a transmitter facility at the Naval Communication Station, Ponce, Puerto Rico.

NAVAL SECURITY GROUP COMMAND

For the Naval Security Group Command, \$3.5 million will provide a personnel housing project for 93 personnel and an ocean surveillance building addition both at the Naval Security Group Activity, Edzell, Scotland.

POLLUTION ABATEMENT

The Navy's pollution abatement program is oriented to comply with Federal, State, and local environmental laws. Since 1968, over \$600 million has been authorized and appropriated to correct pollution deficiencies. We have accomplished practically all of the basic pollution abatement such as air emissions, wastewater treatment, and the elimination of open dumps.

The fiscal year 1982 pollution abatement program request includes 17 projects for \$35.8 million. There are eight oil spill prevention projects, six sanitary sewage collection and treatment projects, one industrial waste collection and treatment project, and two solid waste disposal system projects with requested amounts of \$19.5 million, \$12.9 million, \$1.4 million, and \$2.0 million, respectively.

ENERGY CONSERVATION

The energy conservation investment program is the single most important element in our effort to attain a 20 percent reduction in facilities energy use by 1985. Our fiscal year 1982 program investment of \$50 million will be returned in 4.8 years and the energy conservation features will save approximately 280,000 barrels of oil equivalent (BOE) each year.

This year's program contains: (1) seven lighting systems projects for \$3.2 million with a 2.6-year payback and a 24,700 BOE savings; (2) thirteen facility energy improvement projects for \$26.9 million with a 4.3-year payback and a 162,800 BOE savings; (3) three boiler plant modification projects for \$17.5 million with an 8-year payback and a 79,800 BOE savings; (4) four heating, ventilation, air conditioning projects for \$710,000 with a 2.5-year payback and a 4,900 BOE

savings; (5) one steam and condensate systems project for \$450,000 with a 2.8-year payback and a 2,400 BOE savings; and (6) five weatherization projects for \$1.2 million with a 3.1-year payback and 8,700 BOE savings.

From fiscal year 1976 through 1982, the Navy's energy conservation investment program totals \$277.5 million and is expected to achieve a savings of over 2 million barrels of oil equivalent per year at our shore facilities.

OCCUPATIONAL SAFETY AND HEALTH CONSTRUCTION

The Navy occupational safety and health program is directed toward making the workplace safer. Its major elements are an inspection program, a workplace monitoring and personnel health record surveillance program, and a deficiency abatement program.

The fiscal year 1982 program will accomplish two ventilation improvement projects for \$1.3 million, two hazardous material storage projects for \$4.8 million, an asbestos control project for \$2.2 million, and a breathing air system safety improvements project for \$6.2 million for a total of \$14.5 million.

SUMMARY

The Navy's fiscal year 1982 military construction budget is structured to achieve an appropriate balance between new mission facility requirements of the Navy, quality of life objectives, and contribute to the solution of national energy and environmental problems by continuing the Navy's aggressive programs in these areas.

FISCAL YEAR 1982 MILITARY CONSTRUCTION PROGRAM AUTHORIZATION SUMMARY BY MAJOR COMMAND

[Dollar amounts in thousands]

Major command	Budget request	Percent of program	Minor construction	Pollution abatement	Energy conservation	OSH
Inside the United States:						
Marine Corps.....	\$107,570	9.2	(\$1,920)	(\$8,130)	(\$2,180)	(0)
Office of Naval Research.....	12,700	1.1	(190)	(0)	(6,990)	(0)
Chief of Naval Operations.....	88,160	7.5	(630)	(250)	(380)	(0)
Commander in Chief, Atlantic Fleet.....	153,040	13.0	(1,700)	(480)	(13,580)	(0)
Commander in Chief, Pacific Fleet.....	89,710	7.6	(1,720)	(790)	(1,080)	(0)
Naval Education and Training Command.....	59,280	5.0	(1,080)	(0)	(0)	(0)
Bureau of Medicine and Surgery.....	4,660	.4	(0)	(0)	(1,660)	(0)
Chief of Naval Material.....	354,808	30.2	(2,550)	(23,910)	(21,588)	(\$14,460)
Naval Telecommunications Command.....	3,130	.3	(0)	(510)	(0)	(0)
Naval Security Group Command.....	5,510	.5	(0)	(510)	(0)	(0)
Subtotal.....	878,568	74.8	(9,790)	(34,020)	(47,458)	(14,460)
Outside the United States:						
Marine Corps.....			(480)	(0)	(480)	(0)
Chief of Naval Operations.....	33,250	2.8	(0)	(0)	(0)	(0)
Commander in Chief, Atlantic Fleet.....	5,150	.4	(280)	(0)	(280)	(0)
Commander in Chief, Pacific Fleet.....	193,530	16.5	(1,200)	(1,750)	(1,780)	(0)
Commander in Chief, Naval Forces Europe.....	21,400	1.8	(0)	(0)	(0)	(0)
Naval Telecommunications Command.....	5,600	.5	(920)	(0)	(0)	(0)
Naval Security Group Command.....	3,515	.3	(0)	(0)	(0)	(0)
Subtotal.....	262,445	22.3	(2,880)	(1,750)	(2,540)	(0)
Total.....	1,141,013	97.1	(12,670)	(35,770)	(49,998)	(14,460)
Minor construction.....	34,270	2.9				
Specified.....	(12,670)	(1.1)				
Exigent.....	(21,600)	(1.8)				
Grand total.....	1,175,283	100.0				

(-) Nonadd.

Note: Major command totals do not include minor construction. All minor construction is included under the minor construction total at end. Total for minor construction includes pollution abatement, energy conservation and OSH projects. Totals for pollution abatement, energy conservation and OSH include minor construction.

FISCAL YEAR 1982 MILITARY CONSTRUCTION PROGRAM AUTHORIZATION SUMMARY BY FACILITIES CATEGORIES

(Dollar amounts in thousands)

Description	Navy	Marine Corps	Total	Percent of program	Minor construction	Pollution abatement	Energy conservation	OSH
Operational.....	\$258,840	\$13,500	\$272,340	23.2	(\$970)	(\$2,120)	(\$240)	(0)
Training.....	45,800	3,350	49,150	4.2	(1,360)	(0)	(0)	(0)
Maintenance and production.....	122,450	17,260	139,710	11.9	(770)	(4,150)	(7,310)	(\$4,060)
R.D.T. & E.....	33,220	0	33,220	2.8	(360)	(0)	(7,160)	(0)
Supply.....	25,570	1,750	27,320	2.3	(990)	(7,350)	(1,020)	(4,200)
Medical.....	3,560	0	3,560	.3	(120)	(0)	(680)	(0)
Administrative.....	22,400	0	22,400	1.9	(690)	(0)	(340)	(0)
Housing and community facilities.....	152,585	55,410	207,995	17.7	(3,020)	(0)	(400)	(0)
B Housing.....	(134,815)	(49,400)	(184,215)	(15.7)	(780)	(0)	(400)	(0)
C Support.....	(17,770)	(6,010)	(23,780)	(2.0)	(2,240)	(0)	(0)	(0)
Utilities.....	336,588	13,750	350,338	29.8	(4,390)	(22,150)	(32,848)	(6,200)
Real estate.....	34,980	0	34,980	3.0	(0)	(0)	(0)	(0)
Total.....	1,035,993	105,020	1,141,013	97.1	(12,670)	(35,770)	(49,998)	(14,460)
Minor construction.....			34,270	2.9				
Specified.....			(12,670)	(1.1)				
Exigent.....			(21,600)	(1.8)				
Grand total.....			1,175,283	100.0				

() Nonadd.

Note: Facility category totals do not include minor construction. All minor construction is included under the minor construction total at end. Total for minor construction includes pollution abatement, energy conservation and OSH projects. Totals for pollution abatement, energy conservation, and OSH include minor construction.

Senator THURMOND. General Petersen, your entire statement will be in the record. Do you wish to highlight it?

STATEMENT OF BRIG. GEN. F. E. PETERSEN, USMC, DIRECTOR, FACILITIES AND SERVICES DIVISION, UNDER DEPUTY CHIEF OF STAFF FOR INSTALLATIONS AND LOGISTICS

General PETERSEN. My statement is brief. If you don't mind, I would like to read it.

Mr. Chairman, it is a pleasure to present the Marine portion of the fiscal year 1982 military construction authorization request.

Before outlining the details of the Marine Corps' request, I would like to take this opportunity to convey the Marine Corps' appreciation for the substantial support this committee has given in the past to our military construction request. As a result of this support, military construction funding levels have materially increased. I earnestly solicit your continued support.

Over the past several years the Marine Corps has applied the major portion of its major construction effort to improving the quality of life for the individual marine. This policy is carried forward in this year's budget request and is projected throughout the next 5 years. However, despite the emphasis we are placing on the quality of life project, we do not expect to eliminate our unaccompanied personnel housing deficiencies before 1995, based on projected funding levels.

The Marine Corps' request for military construction authorization for fiscal year 1982 totals \$99,830,000. This is supplemented by the Navy request for \$10,790,000 in support of pollution abatement and conservation activities, bringing the total request in support of Marine Corps construction requirements to \$110,620,000.

Our emphasis on quality-of-life projects this year focuses once again on unaccompanied enlisted personnel housing, for which we are requesting \$44 million, to provide 3,096 billet spaces at five Marine Corps activities. We are requesting \$500,000 for modernization of five dining facilities, \$2,650,000 for a gymnasium and \$1,450,000 for a chapel.

Our total request for quality-of-life projects is \$53.5 million. This figure represents 54 percent of our fiscal year 1982 request and is indicative of the Commandant's continuing policy of continuing to improve quality of life for the individual marine.

Also of primary importance to the Commandant are those projects which affect combat readiness, with improvements of work spaces and operational areas throughout the Marine Corps. In these categories we are requesting \$17,330,000 for eight operational projects at six Marine activities and \$18,860,000 for projects which will improve or replace inadequate maintenance facilities.

Rounding out our program, we are requesting \$6 million for two utility improvement projects, \$480,000 to improve ordnance security at one of our stations, \$1,910,000 for two fire-station projects, and \$1,750,000 for a warehouse.

Mr. Chairman, that completes the overview of the Marine Corps fiscal year 1982 military construction request, and I will be happy to answer any questions that may arise.

Senator THURMOND. Admiral, you may proceed with any other statements.

Admiral ZOBEL. Unless there are general questions, we will proceed with our briefing on shore facilities for a 600-ship Navy.

Before proceeding, I have several general remarks.

The specific ship mix mentioned in our briefing is our best estimates at this point in the program development cycle. We have not had the benefit of the Secretary of the Navy's or the Secretary of Defense's review and approval on the actual numbers and kinds of ships.

For the purposes of determining the adequacy of shore facilities, the following assumptions were made: the 600-ship Navy would be attained by accelerating delivery of new ships and weapon systems, the ship mix will remain relatively steady as the Navy increases to 600 ships, the force distribution between the two commanders in chief, Atlantic and Pacific, will remain relatively stable, and the goal for achieving the 600-ship Navy is calendar year 1990.

With those remarks, I would like to introduce Mr. Ken Taylor and Mr. Ray Murphy, who will now give a briefing on the shore facilities for the 600-ship Navy. Mr. Murphy will start.

STATEMENT OF R. J. MURPHY, DIRECTOR, ATLANTIC LIAISON DIVISION, MILITARY CONSTRUCTION PROGRAMING, NAVAL FACILITIES ENGINEERING COMMAND, DEPARTMENT OF THE NAVY

Mr. MURPHY. Mr. Chairman, gentlemen, this presentation will summarize the military construction projects which the Navy is proposing in fiscal year 1982 and planning for later on in the 1980's in direct support of Atlantic and Pacific Fleet ships at their various homeports. It will highlight the military construction needed to meet the

recently proposed growth in the active fleet to a total of 600 ships by 1990.

The term "homeports" refers to those naval installations where ships are based, except for periods when they are deployed overseas and where training, replenishment, upkeep, and many other support functions are performed to maintain ships in readiness for deployment or special tasks.

Projects covered include piers, dredging, waterfront utilities' services, such as steam, electrical power and fire protection; mooring platforms for floating drydocks, and other construction directly at the waterfronts where ships are berthed. Projects take the form of new construction as well as modernization of existing, basically sound structures.

We should note at this point that today's naval vessels are generally larger and more complex than their predecessors and thus place greater demand on piers, utilities' systems, and waterfront facilities in general.

Several major waterfront construction projects were approved in recent years and are now in use or under construction. The need for that construction as well as projects proposed this year, or those coming up in fiscal year 1983, is, of course, related to current shipbuilding programs.

○ : Indicates changes proposed by President Reagan

NEW SHIPS

		AS OF END FY:								
		75	79	80	81	82	83	84	85	86
FFG-7 (FRIGATE)	AUTH	3	34	39	45	46	48	51	53	54
	IN COMM	0	1	7	14	23	32	39	43	46
SSN-688 (ATTACK SUB)	AUTH	26	33	35	37	38	39	40	42	44
	IN COMM	0	9	13	15	21	24	30	33	35
DD-963 (DESTROYER)	AUTH	30	31	31	31	31	31	32	34	36
	IN COMM	0	23	30	30	30	31	31	34	37
CVN (CARRIER)	AUTH	4	4	5	5	5	5	6	5	7
	IN COMM	1	3	3	3	4	4	4	4	4
CGN (CRUISER N)	AUTH	9	9	9	9	9	9	10	10	11
	IN COMM	5	8	8	9					
LHA (PHIB ASSAULT)	AUTH	5	5	5	5	5	6	6	6	6
	IN COMM	0	4	5	5	5				
CG-47 (ARGIS DEST)	AUTH	0	1	2	4	6	7	10	13	16
	IN COMM	0	0	0	0	0	1	2	3	5

This slide shows the major classes of new ships the Navy has recently commissioned or which will be entering the active fleet over the next few years. The first line shows the number authorized. The second line indicates arrival of the ship in the fleet.

You can see the FFG-7 frigate, the 688-class attack submarine, the 963-class destroyers, and the amphibious assault ships, the LHA, which are very large and similar to aircraft carriers. Also note the nuclear-powered cruisers.

The lower line shows how over the period of years those ships have been entering the fleet and coming into commission. As you can see, there has been a large number of ships in recent years, and we have a large number in addition coming in in the early 1980's. We have to be ready for these new ships, and our 1982 and 1983 construction programs have been structured to address that need.

The figures in red indicate President Reagan's adjustment for larger quantities of these classes of ships. As those larger quantities are proposed and approved, and as ship proposals in other classes are approved a well, we will move toward the 600-ship fleet total.

As the briefing proceeds we will be looking at some sketches and diagrams of the various homeports, and we will be showing what construction we are proposing there this year, as well as coming up in the future. These numbers indicate the current and the fiscal year 1986 totals that we project for the fleet.

THE FLEET

	<u>CURRENT</u>		<u>FY 86</u>	
	<u>LANT</u>	<u>PAC</u>	<u>LANT</u>	<u>PAC</u>
ACTIVE	260	209	287	220
	469		507	
FLT AUX	14	14	23	22
SUBTOTAL	274	223	310	242
	479		552	
RESERVES	26	19	15	16
TOTAL	300	242	325	258
	542		583	

We would like to point out that the 600-ship total applies at this level of activity [indicating]. By 1990 this 507 number will be moving toward an achievement of a 600-ship total.

Ships such as fleet auxiliaries manned by civilian crews and Reserve ships are in addition to the 600-ship total that we are seeking.

As you can see, the split between the Atlantic and the Pacific Fleets is 55 percent Atlantic and 45 percent Pacific. [Deleted.] As we look to the 600-ship total, we will be adding 130 ships [deleted].

ATLANTIC FLEET HOME PORTS

Mr. MURPHY. We will now discuss the various home ports of the Atlantic Fleet.

ATLANTIC FLEET

Homeport	Current	Fiscal year 1986
Charleston.....	64	[Deleted.]
Little Creek.....	19	
Mayport.....	27	
North London-Groton.....	38	
Holy Loch.....		
Kings Bay.....		
Norfolk.....	94	
Gaeta.....	1	
Holy Loch.....	1	
Kings Bay.....	1	
La Maddalena.....	1	
Newport.....	6	
Panama City.....	1	
Pensacola.....	1	
Rota.....	0	
W. S. Charleston.....	2	
W. S. Earle.....	3	
Total.....	250	

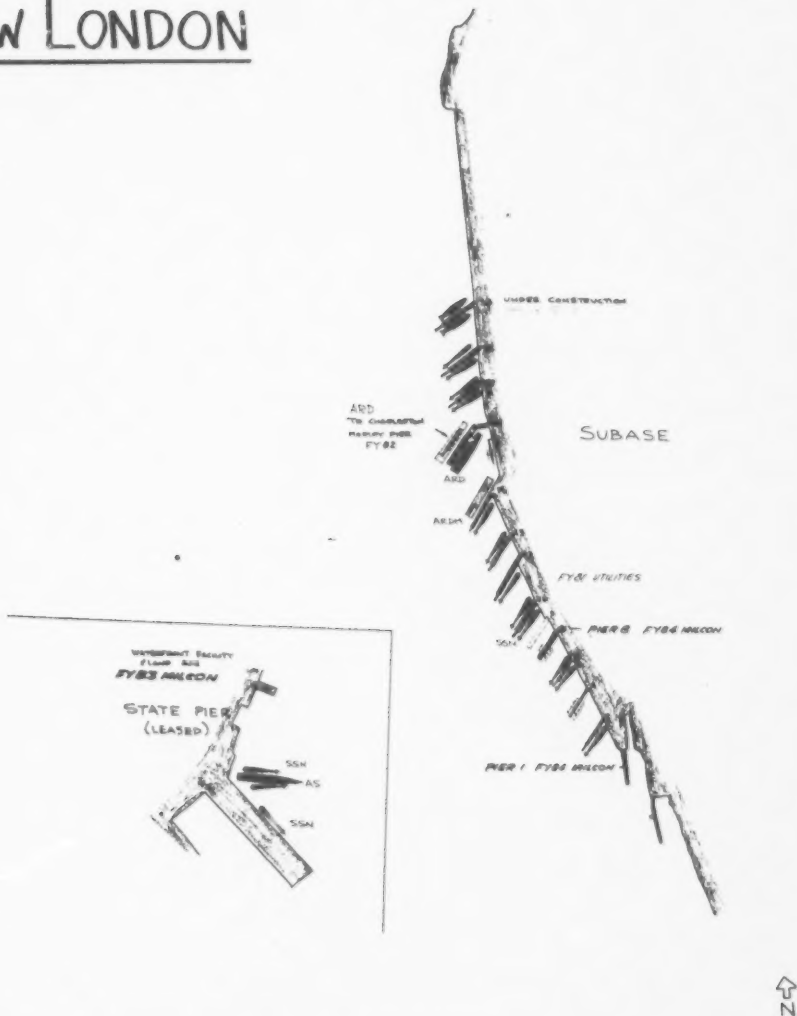
Here are the various homeports of the Atlantic Fleet, the number of ships homeported now, and the growth by 1986. I will discuss the growth in 1990 as we proceed through the first five ports, the largest homeports used by the Atlantic Fleet ships. We will look at sketches of those ports to get a better idea of what construction it is we will be proposing.

NEW LONDON, GROTON, CONN.

Here is the submarine base at New London, Groton, Conn. There are 38 ships homeported here today, and we expect that the total will continue at that level. The size and complexity of ships will increase, however, as the submarines of the 688 class come into the fleet and displace older attack submarines. This will cause a considerable amount of construction.

We expect approximately \$21 million of projects to be required at New London over the coming years.

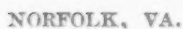
NEW LONDON



In fiscal year 1982 we are proposing the modernization of pier 17, so that it will be able to handle 688-class submarines. Later on in the 1980's we will have a requirement for Pier 8 as well as electric power and quaywall improvements along the existing piers. Of these three piers at the north end of the bay [indicating] two were completed in the late 1970's and this one is under construction.

Those are piers fully capable of handling the 688-class submarines.

Across the river, at the State pier, the Navy leases facilities and will have one project there along the shoreline where we do own the facilities.



In this year's budget we are proposing a major facility, pier 11, which will be fully capable of supporting the latest nuclear-powered aircraft carriers, as well as the LHA amphibious assault ships. That is a major facility, costing \$35 million in our 1982 proposal. When that pier is constructed, we will be able to remove the carrier berthed on pier 7 where conditions are really not ideal and far too tight. That

Other requirements in Charleston include improvements of the bulkhead along the river shoreline to make the piers fully capable of being utilized and also eliminating subsidence conditions which we have experienced here in recent years. Pier L will also be programed in the mid-1980's.

The blue line indicates a requirement for a steam line. The Navy is proposing to furnish steam to these ships when they are in home port with boilers shut down, by bringing steam from a coal-fired plant located to the north in the naval shipyard. Steam would be transmitted through the new steamline which branches onto the piers. This is a \$16-million project, not in this year's budget, however.

The Navy is investigating a possible alternative source of that steam, located off the slide at this location, from a private firm called the McAlloy Corp. They have the potential for producing steam as a byproduct of an industrial operation there. We are working with McAlloy at the moment on the possibility of providing that steam, in which case the steam line will be run much as it is here, but not requiring the connections with the Navy's coal-fired plant in the north.

The total requirement in Charleston will approach \$120 million, to make it capable of supporting the 600-ship Navy.

MAYPORT, FLA.

Mr. MURPHY. The last Atlantic Fleet homeport, the Naval Station, Mayport, Fla., is shown in this sketch. [Sketch deleted.] The growth here is going to be considerable [deleted] in the near future.

NS MAYPORT

BERTHING PLAN



The principal construction in Mayport is shown in red—the berthing wharf. We received approval in 1981 for the construction of this section of the wharf, and construction will begin on that shortly.

There remains to be programed the 1,000-foot section shown here. The Navy is proposing to program that in its 1984 budget. [Deleted.] Around the balance of the basin there is a requirement for utilities upgrading and power improvements. As the carriers based there return from the service life extension program, they will have a much greater demand for shore utilities. We will be proposing projects in 1983 as well as in 1984.

To summarize on the Atlantic Fleet requirements, we foresee approximately \$280 million in military construction at the waterfront in the coming years in support of the growth to 600 ships.

We foresee these ports having the capability of meeting the demand placed by the 600 ships, given that the construction I described is acquired.

Mr. Taylor will continue to discuss the Pacific Fleet requirements.

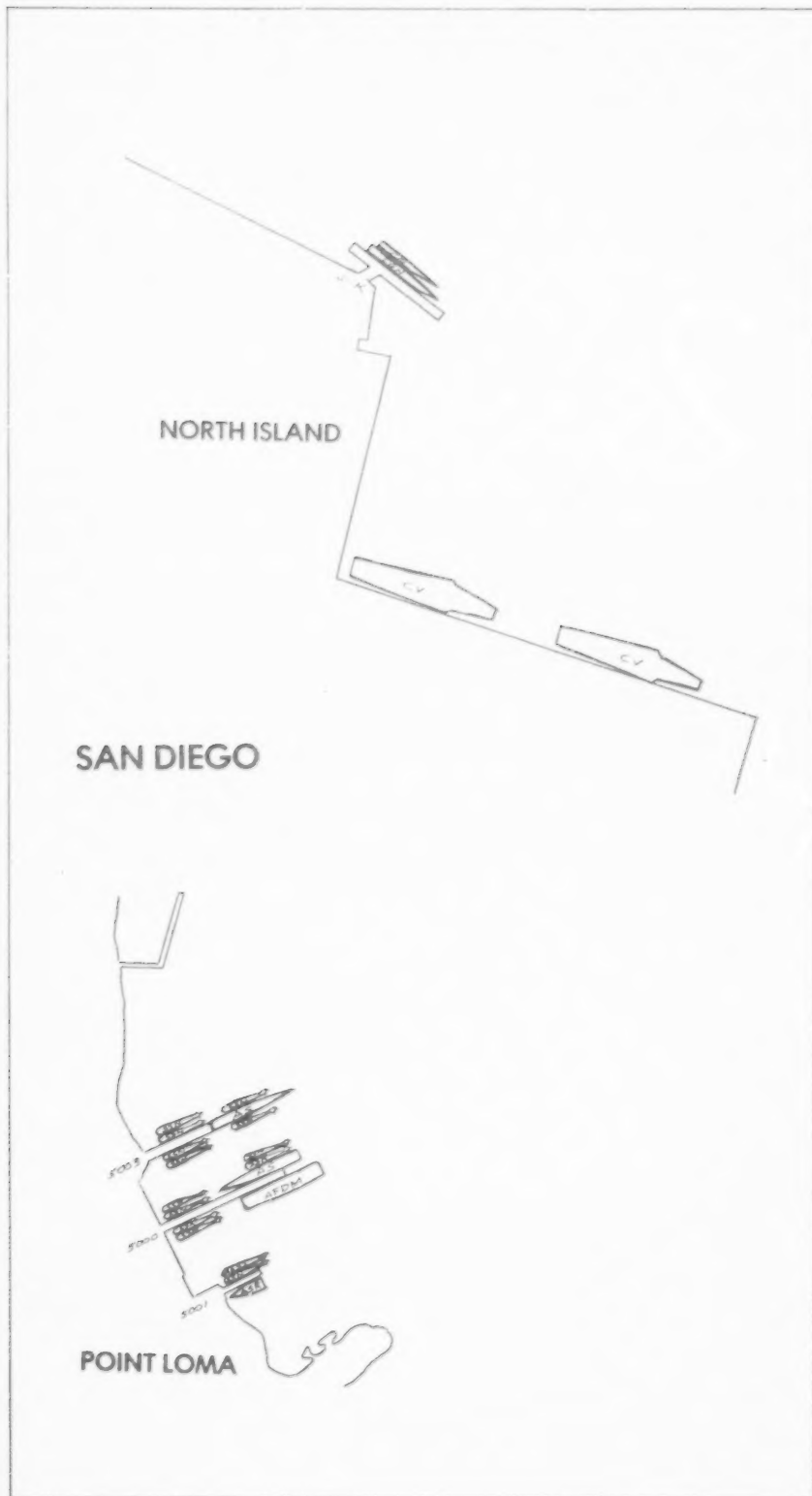
STATEMENT OF W. K. TAYLOR, DIRECTOR, PACIFIC LIAISON DIVISION, MILITARY CONSTRUCTION PROGRAMING, NAVAL FACILITIES COMMAND, DEPARTMENT OF THE NAVY

Mr. TAYLOR. My presentation will concentrate on those activities where there are large concentrations of ships, including San Diego, Long Beach, San Francisco, Pearl Harbor, and Yokosuka.

PACIFIC FLEET

Homeport	Current	Fiscal year 1986
Alameda.....	4	[Deleted.]
Bangor.....	3	
Bremerton.....	3	
Concord.....	5	
Guam.....	1	
Long Beach.....	6	
Oakland.....	2	
Pearl Harbor.....	46	
Port Hueneme.....	1	
San Diego.....	120	
San Francisco.....	5	
Sasebo.....	1	
Subic Bay.....	1	
Vallejo.....	2	
Yokosuka.....	9	
Total.....	209	

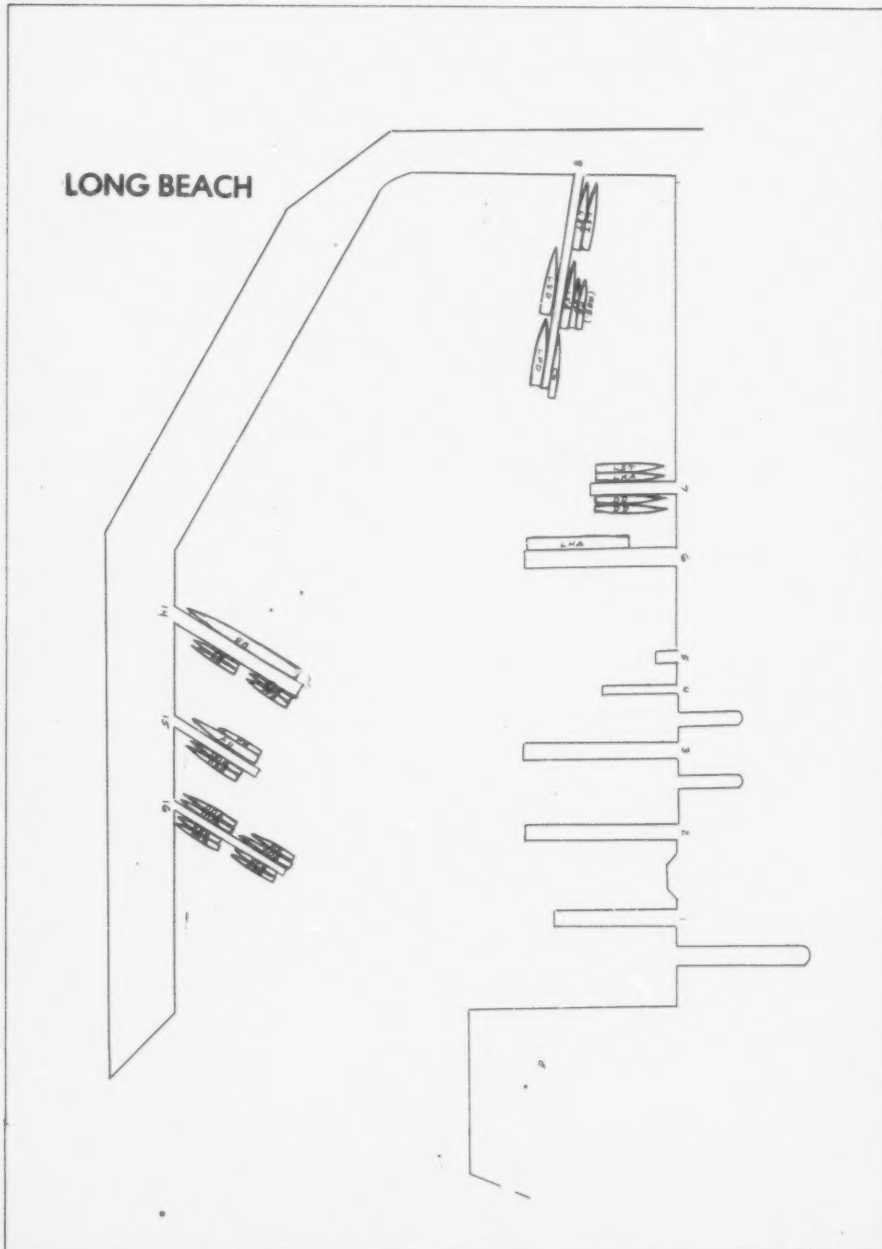
SAN DIEGO, CALIF. AREA



Previous military construction programs have provided adequate power and utilities to support these carriers.

There is a pier called "JK", used for the berthing of cruisers, which is in an advanced state of deterioration and will need replacing in the mid-1980 timeframe, costing approximately \$30 million.

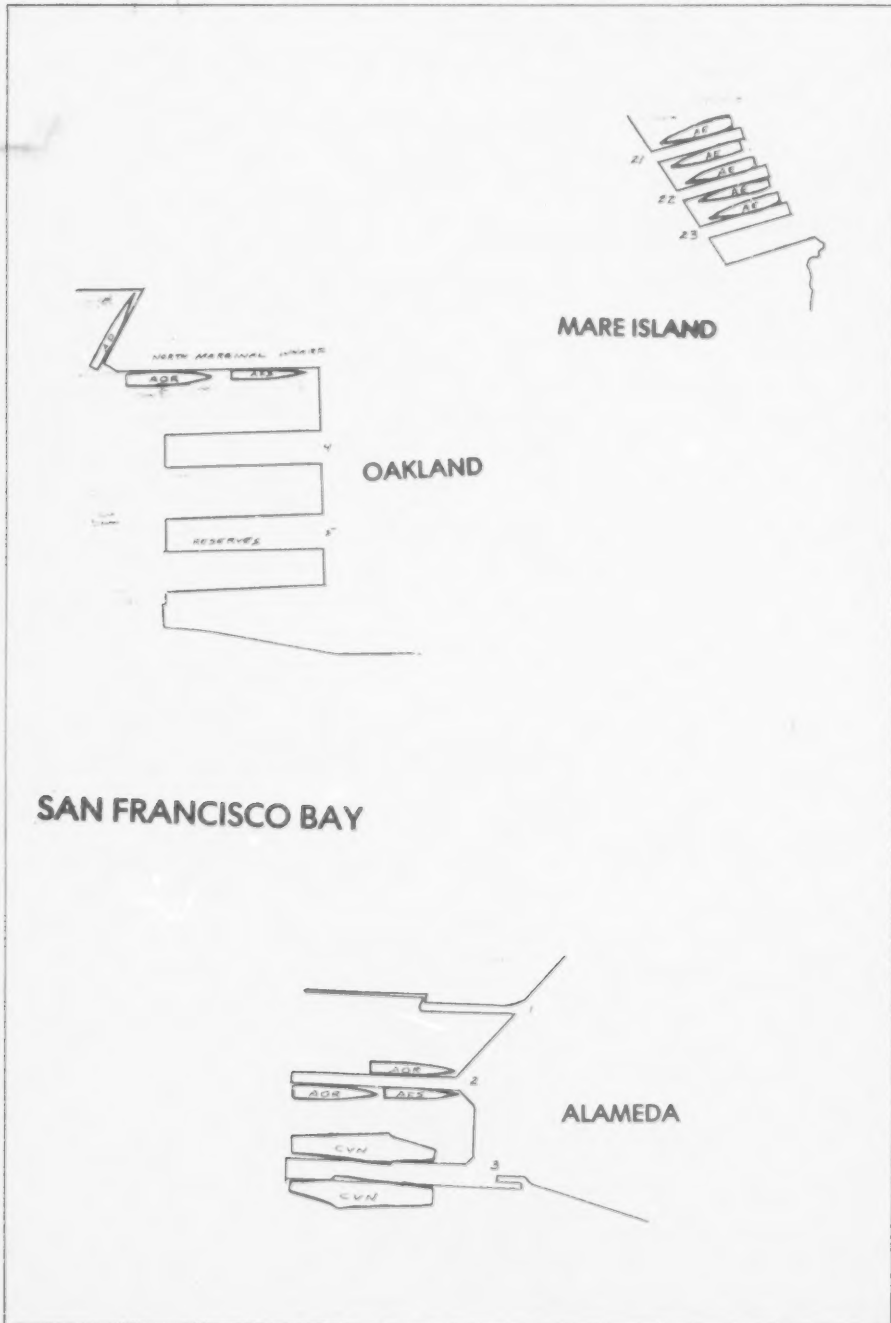
LONG BEACH, CALIF.



Looking at the Naval Station, San Diego, military construction programs through the 1970's have made the North Pier area adequate for the future. We have addressed each of the piers, upgraded them, and provided adequate water depth. However, the South Pier area cur-

rently contains four 30-foot-wide wooden piers with a maximum of 20-foot water alongside. We envision that this South Pier area will have to be upgraded to take the number of ships homeported in this location, and beginning in 1983, we will program for a fleet drydock with complete upgrade, estimated to cost \$100 million at this station.

SAN FRANCISCO, CALIF. BAY AREA



Moving to Long Beach, the Navy has announced the reopening of the Naval Station, Long Beach, as an active homeport for Pacific Fleet

ships. The reason for doing that was to relieve overcrowding at the Naval Station, San Diego. If we were not to reopen Long Beach, the ships that you see before you would have to be berthed at the Naval Station, San Diego, requiring considerable pier construction.

These piers that you see here belong to the shipyard and are used for industrial purposes and cannot be used for homeporting of ships.

The current budget before you requests over \$20 million to upgrade the remaining naval station piers, with the exception of Pier 14, to provide adequate support for the ships to be assigned at this location.

PEARL HARBOR, HAWAII AREA



We do envision that in the future, because of the 600-ship Navy, we may have to construct one additional pier at the Naval Station, Long Beach, estimated to cost approximately \$55 million.

Turning to the San Francisco Bay area, three locations are used for homeporting: Mare Island, Oakland, and the Naval Air Station, Alameda, Calif.

Adequate facilities have been provided in the past at Oakland and Mare Island.

The request before you contains the upgrades of Pier 3 at the Naval Air Station, Alameda. Alameda and Mare Island support the nuclear aircraft carriers assigned to the Pacific Fleet and we see an urgent need for this project, particularly if additional carrier task forces are to be introduced into the Pacific Fleet.

One other project remaining for future programing is the upgrading of utilities on Pier 2. We estimate \$10 million will be required in the San Francisco Bay area for the 600-ship Navy.

Turning to Pearl Harbor: We have the naval station, which supports surface ships of the Pacific Fleet, and the submarine base, which supports submarines.

This budget request has a project to provide additional saltwater utilities at the submarine base to provide not only fire protection but also emergency cooling water for the submarines' reactors when they are in port.

At the naval station, adequate utilities have been provided in the past. We do see that we will have to provide one additional berth, probably a wharf, that will take a deep-draft vessel the size of a battleship, and this could run up to \$35 million for this location.

Looking at the last homeport, Yokosuka, Japan, it supports an aircraft carrier and its associated escorts. Adequate utilities have been provided there in the past, and we see no impact upon this port.

In summary, it looks as though for the Pacific Fleet the existing ports of the Pacific Fleet are adequate to handle the increased load but it will require an expenditure of \$250 to \$300 million to provide adequate facilities for a 600-ship Navy.

This concludes the briefing.

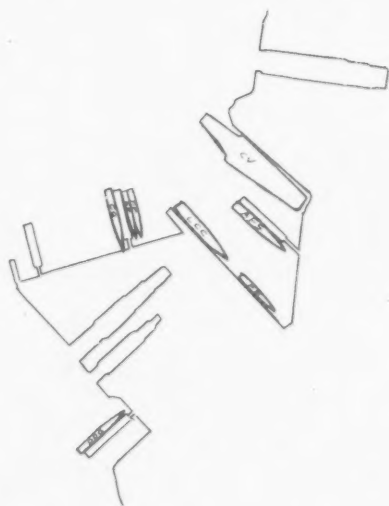
Admiral ZOBEL. If we may, Mr. Chairman, we would like to bring the committee up to date on the Trident program, with a 20-minute briefing.

During or after that briefing, Rear Adm. J. D. Murray, Jr., the Trident project manager, and I are prepared to answer the committee's questions.

We will provide an update of the status of the Trident submarine procurement and need for an east coast Trident base.

Captain Schleicher will begin.

YOKOSUKA, JAPAN AREA



YOKOSUKA

**STATEMENT OF CAPT. R. J. SCHLEICHER, USN, TRIDENT PROGRAM
COORDINATION BRANCH, OFFICE OF THE DEPUTY CHIEF OF
NAVAL OPERATIONS (SUBMARINE WARFARE), DEPARTMENT OF
THE NAVY**

TRIDENT SUBMARINE AND MISSILE PROGRAM

Captain SCHLEICHER. Good morning, Mr. Chairman.

Since November 15, 1960, when the first Polaris-missile submarine began its initial patrol, the fleet ballistic missile force has provided our country with the most survivable and enduring element in the strategic deterrent system.

As you are aware, the Trident submarine and a new or improved missile are the principal features in the current modernization program for the submarine-launched ballistic missile, or SLBM, force.

Since the beginning of the Trident program the total number of Trident submarines to be built was not specified. Although the Navy initially planned a Trident procurement rate of three ships every 2 years, the basic authorization rate to date has been about one per year.

There are presently nine ships authorized. Two more ships, for a total of 11, have had long-lead procurement authorized. The total number of Trident submarines in the President's 5-year defense plan is 15, and the rate at which they will be built resumes at a rate of 3 every 2 years in fiscal year 1985.

The ultimate Trident force level is under continuing review and will be influenced by several interrelated factors. Primary among these will be the requirement to replace our currently operational SSBN force as a result of aging and technological obsolescence, possible changes in the role SLBM's will play in the future U.S. mix of strategic forces, political considerations such as the requirement for essential equivalence, and SALT considerations.

Our new submarine base in Bangor, Wash., is constructed for a squadron of 10 submarines. These initial 10 Trident submarines will increase our Nation's strategic deterrent posture in the Pacific.

There is a need, however, for the east coast basing of a second Trident submarine squadron. The nature, concentration, and location of the Soviet targets dictate for Atlantic/east coast basing of the Trident submarines, with the potential Trident II, D-5-sized missiles. This will accommodate retirement of our Poseidon submarines that are in the Atlantic. Replacing them with the modern, quiet Trident submarines will maintain a two-ocean antisubmarine warfare problem for the Soviets.

It is essential to maintain a two-ocean strategic force to counter any Soviet current or projected antisubmarine warfare threat.

In response to this need, the Secretary of the Navy announced in October 1980, that Kings Bay, Ga. had been selected as the location for the construction of the Trident Atlantic coast strategic submarine base. This announcement culminated the evaluation and analysis of many different base locations, operational capabilities, ability to sat-

isfy the larger explosive safety arcs required by the more powerful propellant in the Trident missile, and costs, as well as environmental and social impacts.

This selection was also made following the filing of the final supplemental environmental impact statement and full consideration of the impacts as required by environmental regulations and procedures.

As you will recall, the site at Kings Bay, Ga., has been in use since July 1979, for the Poseidon squadron that was relocated from Rota, Spain. At present the base provides austere and minimal ashore support to this submarine-tender-based squadron.

Several factors dictate when we will need the base at Kings Bay ready to support Trident submarines, only one of which is based upon the Trident shipbuilding rate. As previously mentioned, the base at Bangor is sized for 10 submarines. The projected shipbuilding rate indicates that the 11th submarine will be delivered in 1989.

A second factor is the IOC of the Trident II or follow-on missile.

The Secretary of Defense in his SLBM modernization report to Congress last year adopted an advanced development program which commenced this year and culminates in fiscal year 1983 with a selection decision of a follow-on missile option which will support a calendar year 1989 IOC.

The Trident I development program was an unqualified success, and since the follow-on missile is an evolutionary process with little or no technological risks involved, no problems are anticipated in meeting the directed IOC date.

It is the Navy's plan to incorporate this new missile and the modern Trident submarine into the Atlantic Fleet as soon as possible, in order to upgrade and maintain the two-ocean strategic force.

The construction at Kings Bay has been phased to support these requirements, to be ready in 1989. Kings Bay is the only base on the east coast with the required explosive handling are for the current Trident missile and any modernized missile contemplated.

Since studies have shown the larger Trident II D-5 size missile to be the most cost and militarily effective candidate, it is the one most likely for selection in fiscal year 1983 and will require construction of assembly, handling and production facilities. Due to the desire to introduce this missile into the fleet with the least disruption to ongoing operations, and for strategic targeting considerations, Kings Bay becomes the most logical choice.

Once Kings Bay is established with the follow-on missile, the strategic weapons facilities at Bangor will be upgraded to accommodate Trident submarines that have been converted to carry the new missiles as they come out of overhaul.

In the event some upgrade of the current Trident I missile is selected instead of the larger, more capable Trident II missile, these assembly and production facilities would remain in Charleston, S.C., and a tender equivalent missile facility would be constructed at Kings Bay.

Comdr. G. B. Estes will now describe the status of current construction at Bangor, Wash., and the scope of the proposed Trident base at Kings Bay, Ga.

STATEMENT OF COMDR. G. B. ESTES, CEC, USN, ACICC PLANS AND PROGRAMS, OFFICER IN CHARGE OF CONSTRUCTION TRIDENT, DEPARTMENT OF THE NAVY

Commander ESTES. Good afternoon, Mr. Chairman, gentlemen.

In discussing the construction program status and plans in support of the Trident system, I will be talking about three separate programs—the Trident program at Bangor, Wash.; the Poseidon relocation program at Kings Bay; and, finally, the Trident program at Kings Bay.

NAVAL SUBMARINE BASE, BANGOR, WASH.

First, the naval submarine base at Bangor.



The base is northwest of Seattle, as shown here by the red dot on the map. [Chart deleted.]

**TRIDENT MILCON PROGRAM
BANGOR, WASHINGTON
(\$000,000)**

	FY74—81	FY82	TO COMPLETE	TOTAL
FACILITIES	554.6	23.1	22.1	599.8
COMMUNITY IMPACT ASSISTANCE	55.5	—	—	55.5
DEFENSE ACCESS ROADS	22.0	—	—	22.0
SUBTOTAL	632.1	23.1	22.1	677.3
FAMILY HOUSING	26.4	—	—	26.4
TOTAL	658.5	23.1	22.1	703.7

We began construction at Bangor in fiscal year 1974. For fiscal year 1982 we are requesting \$23 million. Currently, we are projecting an additional \$22 million to complete the program.

Our Bangor program, including community impact assistance, family housing and defense access roads, totals about \$704 million. Of the approved program, to date, we are about 98 percent complete.

I would like to bring you up to date on construction status at Bangor, if I may.

[Chart deleted.]

Our personnel support core is anchored on the north by the Trident Training Facility and also contains unaccompanied enlisted personnel housing, an enlisted dining facility, a library and theater complex, and a Navy exchange. The open space next to the exchange is reserved for the commissary store, which is included in our fiscal year 1982 request.

Recreation facilities, club facilities, and unaccompanied officer housing round out the southern part of the core.

Another 1982 project is an off-crew administration building which will be located by the Trident Training Facility.

[Chart deleted.]

This is our public works industrial support area. Two of our 1982 projects will be in this area. A supply support facility will be located at the left side of the picture, and an administration building will be located just off the screen to the right.

[Chart deleted.]

The strategic weapons area is essentially complete.

[Chart deleted.]

This is the magnetic silencing facility. Our 1982 request includes a pier protection system to go on the open end of the pier.

[Chart deleted.]

The explosives handling wharf is shown here. Our 1982 request also includes a project for a submarine berthing system which will go inside.

[Chart deleted.]

This is the refit delta, with two refit berths on the outboard legs.

[Chart deleted.]

The inboard leg has a drydock, shown here in the dry condition.

[Chart deleted.]

This is the service craft pier, which was completed in March of this year.

[Chart deleted.]

Finally at Bangor, the refit industrial facility, a 6.5-acre shop building is completed.

NAVAL SUBMARINE SUPPORT BASE, KINGS BAY, GA.

Turning now to the naval submarine support base at Kings Bay, the base is located in extreme southeastern Georgia, near the Georgia-Florida border.

[Chart deleted.]

A satellite view shows the base, St. Marys, Ga., and Fernandina Beach, Fla.

[Chart deleted.]

Before we began at Kings Bay the base was an Army contingency ammunition outload facility.

[Chart deleted.]

There was very little in the way of utilities and road infrastructure when we began. [Chart deleted.] This is one of several reasons why we need to begin construction for Trident in fiscal year 1982 at Kings Bay. [Chart deleted.]

Before discussing that, however, I would like to cover the Poseidon squadron relocation.

POSEIDON SQUADRON RELOCATION

[Chart deleted.]

This is a 4-year program which began in fiscal year 1978. Our last funding year was fiscal year 1981. Our total program for the Poseidon relocation program is about \$125 million, including defense access roads and family housing. The execution of this program is about two-thirds complete.

POSEIDON MILCON PROGRAM KINGS BAY, GEORGIA (\$000,000)

	FY78	FY79	FY80	FY81	TOTAL
FACILITIES	27.9	39.1	20.3	18.0	105.3
DEFENSE ACCESS ROADS	—	—	2.3	3.0	5.3
SUBTOTAL	27.9	39.1	22.6	21.0	110.6
FAMILY HOUSING	—	13.9	—	—	—
TOTAL	27.9	53.0	22.6	21.0	124.5

I would like to quickly bring you up to date on construction status for the Poseidon program. This is the main gate at Kings Bay [chart deleted].

Two projects which were critical to the relocation of the squadron from Rota, Spain, were the tender mooring facility for the U.S.S. *Simon Lake*, shown at the top, and the drydock mooring facility for the U.S.S. *Oak Ridge*, shown at the bottom.

[Chart deleted.]

This is the site for our extended refit period staging building and flammable storage building. These buildings support the floating drydock operation. Because of poor soil conditions, we had to install vertical sand drains and surcharge the area with 6 to 8 feet of dredge spoil; then there is a waiting period of 1 year for settlement to occur before we construct the buildings.

We expect to encounter these soil conditions in certain other facility locations. This will mean that construction time will be longer at Kings Bay than for similar facilities at Bangor, Wash.

[Chart deleted.]

This is the industrial support core. The public works maintenance shop, vehicle maintenance shop, warehouse, and telephone exchange are completed. The fire station is nearing completion and the administration building is under construction.

[Chart deleted.]

Here is another view of the administration building. This project is about 75 percent complete.

This is the clearing operation for the recreation facility. The main gate is at the right and Georgia Spur 40 goes across the top of the picture.

[Chart deleted.]

This is the family housing construction area. The housing project is about 70 percent complete now. We are expecting our first 56 enlisted units to be available for occupancy in June of this year. The remainder of the 250 units will be available over the period from July through November this year.

TRIDENT PROGRAM, KINGS BAY, GA.

Commander ESTES. Turning now to the Trident program at Kings Bay, this is our first construction request for Trident at Kings Bay. We have been doing a significant amount of planning up to this time.

This is the land-use plan, which shows in brown and small cross-hatching the areas affected by the Poseidon construction. The areas in tan, with large crosshatching, are those areas affected by the Trident construction program.

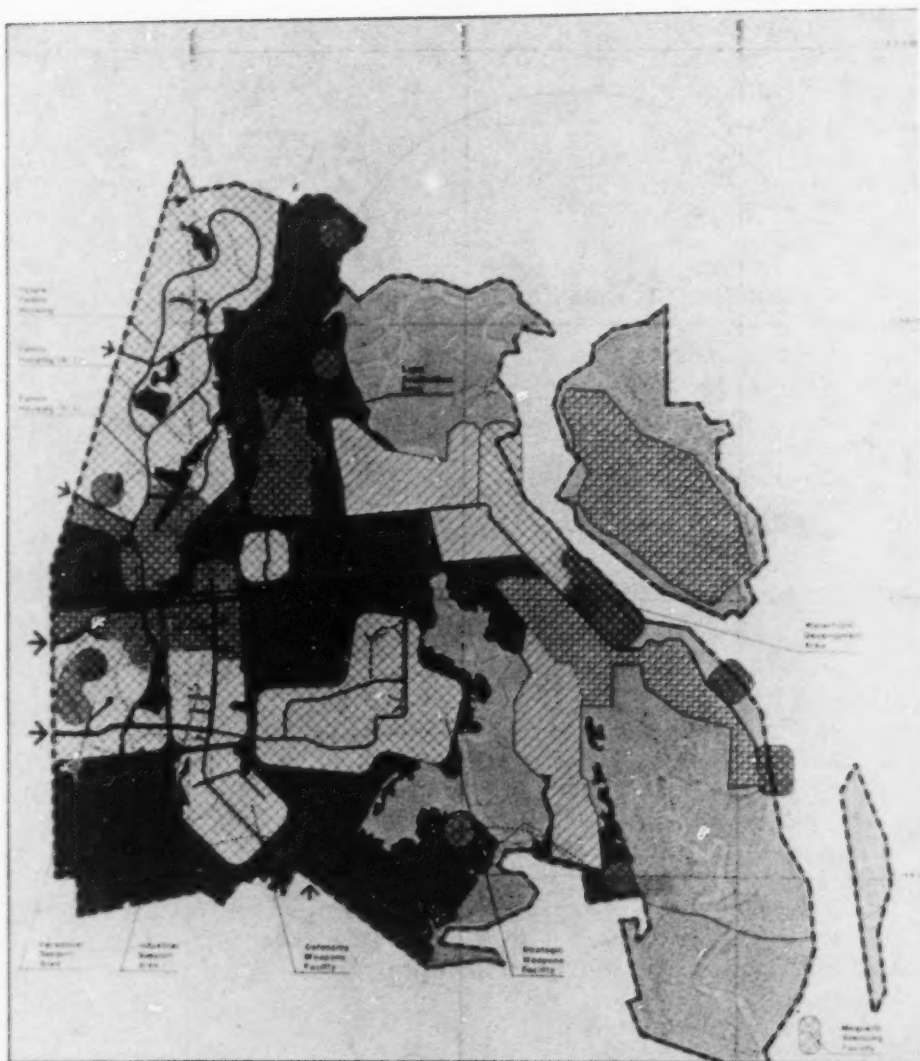
We have developed a master plan which provides a full range of facilities to support both the Poseidon and the Trident strategic missions. The plan shows the relationship among the various operational requirements.

First, the waterfront contains a drydock, two refit piers, a service-craft pier, and an explosive handling wharf. Further down the bay are a tender mooring facility and a floating drydock mooring facility.

In the center of the base is the refit industrial facility. Below is the strategic weapons area, with magazines, industrial facilities, and support buildings.

To the west of that is the industrial support core, which we saw earlier, which contains public works and supply buildings as well as utility plants.

To the west of that is the personnel support core, which includes a dispensary and dental clinic, Navy exchange and commissary, clubs, unaccompanied enlisted personnel housing, enlisted dining facility, recreation facilities, Trident training facility, and base administration.



Legend

- T-1 Development
- A-1 A-2 Development
- T-1 Dredged Material
- A-1 A-2 Dredged Material
- Recreation Areas
- Limited Development Suitability
- Woodland Management

- Roads
- Railways
- Pedestrian/Bicycle Routes
- Base Entries
- ESOD Arcs



Figure

Naval Submarine
Support Base

Land Use
Plan

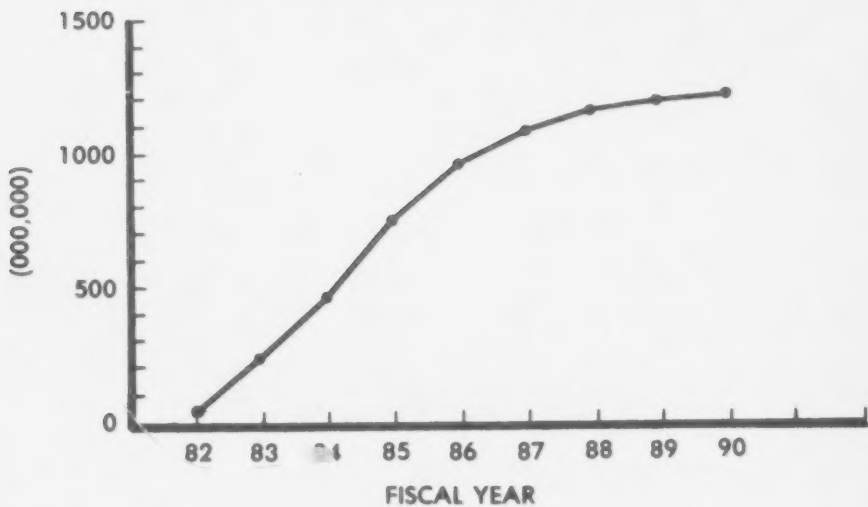
To the north of this area is family housing. This is the area which is also now under construction.

**TRIDENT MILCON PROGRAM
KINGS BAY, GEORGIA
(\$000,000)**

	<u>FY-82</u>	<u>TO COMPLETE</u>	<u>TOTAL</u>
FACILITIES	65.1	1,155.1	1,120.2
DEFENSE ACCESS ROADS	<u>12.0</u>	<u>5.3</u>	<u>17.3</u>
SUBTOTAL	77.1	1,160.4	1,237.5
FAMILY HOUSING	<u>12.7</u>	<u> </u>	<u>12.7</u>
TOTAL	89.8	1,160.4	1,250.2

To implement this master plan, we are requesting \$65.1 million for 1982 and an additional \$12 million in defense access roads. The program as we envision it would amount to about \$1.25 billion over its total life.

**MILCON PROFILE (\$ MILLION)
EAST COAST STRATEGIC SUBMARINE BASE**



We have structured the program over a 9-year period, for several reasons: We need to provide an orderly progression of projects to meet operational requirements as they occur. We need to protect the existing strategic mission which is ongoing at Kings Bay. We have environmental constraints that we need to work with. We want to avoid exceeding the capability of the regional land market of satisfying construction labor requirements.

As you can see, our peak program years are 1984, 1985, and 1986.

In closing, I would like to mention two of our large projects for 1982 at Kings Bay:

The first provides for the initial increment of Trident roads and utility systems. Unlike Bangor, as I mentioned earlier, we had almost no utilities infrastructure when we began. We need to begin utility work in fiscal year 1982, for a number of reasons:

First, we need to minimize the conflicts with vertical construction. Roads and utilities are necessary to support construction operations. Finally, we need to provide utility support as facilities are completed.

[Chart deleted.]

The second project I would like to mention is the first increment of Trident dredging for Kings Bay.

Here, again, we need to begin in fiscal year 1982, for a number of reasons: We need to make way for follow-on waterfront construction operations. We need to provide limerock and other dredge spoil for base construction. In addition, we have an environmental mitigation program which restricts the time available for dredging and blasting. The blasting can occur only during the winter months of October through March.

Finally, we need to accommodate the existing strategic mission which will continue through the building program.

[Chart deleted.]

The waterfront construction I mentioned will take place at the north end of Kings Bay. We need to do our blasting and dredging there now, to make way for the drydock and refit piers and service-craft pier construction to follow.

In conclusion, I would like to summarize by saying we are winding up our program at Bangor. We are about two-thirds complete on our Poseidon program at Kings Bay and we need to begin our Trident construction program at Kings Bay in fiscal year 1982.

Admiral ZOBEL. Do you have any questions on the Trident program, Mr. Chairman?

Senator THURMOND. I have a few questions here.

I believe you are proposing construction at Kings Bay, Ga., the east coast Trident site in your fiscal year 1982 request. How much is in your request for Kings Bay, and is all of this dredging done toward basing other Trident submarines?

Admiral ZOBEL. \$65 million this year, sir.

Senator THURMOND. What is the total cost?

Admiral ZOBEL. The total cost over a 9- or 10-year period is \$1.25 billion. That is our present projection.

Senator THURMOND. Could you provide for the record a funding profile showing the main items of cost by fiscal year?

Admiral ZOBEL. Yes, sir. We can do that very easily.

[The information requested follows:]

KINGS BAY MILITARY CONSTRUCTION PROGRAM

[Dollar amounts in millions]

Major facilities	Fiscal year—					To complete	Totals
	1982	1983	1984	1985	1986		
Utilities and site improvements.....	\$44.0	\$138.6	\$100.3	\$63.8	\$24.8	\$18.3	\$389.8
Dredging.....	13.0	15.0		20.0		47.0	95.0
Trident training facilities.....			80.0	10.0			90.0
Drydock.....			40.2	84.5			124.7
Refit industrial facilities.....				42.3	1.1	.5	43.9
Waterfront operations facilities.....			15.1	31.5	62.0	.6	109.2
Strategic weapons facilities.....					105.7		172.6
Base support.....	5.0	.5		17.4		26.4	49.3
Personnel support.....	3.1	15.5		8.8	14.2	97.4	139.0
Defensive weapons facilities.....						6.7	6.7
Subtotal.....	65.1	169.6	235.6	278.3	207.8	263.8	1,220.2
Defense access roads.....	12.0	5.3					17.3
Subtotal.....	77.1	174.9	235.6	278.3	207.8	263.8	1,237.5
Family housing.....	12.7						12.7
Total.....	89.8	174.9	235.6	278.3	207.8	263.8	1,250.2

Senator THURMOND. I understand the first 10 Trident submarines will be stationed at Bangor, Wash., on the west coast; is that the case?

Admiral ZOBEL. Yes, sir.

Senator THURMOND. Could the Bangor site handle more than 10 Tridents?

Admiral ZOBEL. I would like Admiral Murray to talk to that.

STATEMENT OF REAR ADM. J. D. MURRAY, JR., USN, PROJECT MANAGER, TRIDENT SYSTEM PROJECT (PM-2), CHIEF OF NAVAL MATERIAL, DEPARTMENT OF THE NAVY

Admiral MURRAY. The Trident site was sized for 10 submarines, as it is presently constructed; however, it has the ability to be expanded with additional construction, including additional piers and additional military construction to accommodate 20 Trident submarines.

It was also sized for 10 for the environmental impact statement that was submitted.

In order to increase the size of the base, a supplemental statement or enlargement on the environmental impact statement would have to be made to accommodate the larger number.

The present facilities will support the 10 but additional facilities will be needed to support more than 10.

Senator THURMOND. Do you contemplate stationing more than 10 Tridents at Bangor?

Admiral MURRAY. Not at this time, sir.

Senator THURMOND. At any time?

Admiral MURRAY. No, sir.

Senator THURMOND. No plans at any time to have more than 10?

Admiral MURRAY. No, sir.

Senator THURMOND. How many Tridents do you intend to build in all?

Admiral MURRAY. As was discussed in the presentation, the Navy has not made a decision, and it depends on several factors—political, SALT considerations—as to the total number of Tridents that will be built, Mr. Chairman.

Senator THURMOND. As of this date, taking into account the problems that you are now having in Trident construction, when do you forecast that you will receive the 11th Trident submarine in the fleet?

Admiral MURRAY. The delivery date for the 11th submarine under the present schedules is [deleted] 1989.

Senator THURMOND. That is when you need Kings Bay?

Admiral MURRAY. The Kings Bay site is not only tied to the submarine delivery schedule, but it is also tied to the decision about the Trident II missile, or the upgraded missile. We will take one of the submarines that was constructed earlier in the program and convert it to support the Trident II missile. The Trident II converted submarine would then be the first one to be stationed at Kings Bay.

Senator THURMOND. When do you feel that will be done?

Admiral MURRAY. We will have to convert that submarine in time [deleted] to accomplish the preliminary firing tests for the Trident II missile. The arrival of that submarine would still be about 1989 at Kings Bay.

Senator THURMOND. Could you put that one at Bangor?

Admiral MURRAY. We do not have the Trident II missile support facilities at Bangor at the present time. If the Trident II decision were made, we would incorporate these facilities at Kings Bay.

Senator THURMOND. The issue is how many Tridents will ultimately be in the fleet and whether or not there will be a new strategic submarine as an alternative. The MX seems to dictate to the Navy that we not go too fast on this. This is a great deal of money you are talking about now, \$1.5 billion in one place.

Admiral ZOBEL. About \$1¼ billion, sir. It is a great deal of money. However, in a program the size of the Trident program, it is a relatively small percentage of the total program cost.

One thing to be considered is the fact that we do have an organization now in place in Kings Bay to handle the construction. Our construction program grows slowly over the next few years so that we can handle the actual construction at a very reasonable pace. We should start now to make the 1989 date.

Senator THURMOND. Do you think in the next 10 years you might come up with another submarine to replace Trident?

Admiral MURRAY. No, sir, Mr. Chairman. In all the studies that we have done and in all the studies that we continue to do, the Trident submarine with the large missile continues to be the most cost-effective strategic missile system we can put to sea.

Senator THURMOND. Is that larger than any submarine that the Soviets have?

Admiral MURRAY. I think the Typhoon system appears to us to be a larger-sized submarine.

Senator THURMOND. Than Trident?

Admiral MURRAY. Yes, sir.

Senator THURMOND. Which is faster?

Admiral MURRAY. We don't know, sir.

Senator THURMOND. Don't answer if it is classified. This is an open session. I wondered which is faster and which is quieter.

Admiral MURRAY. I don't think we can give you any estimate at this time, Mr. Chairman.

Senator THURMOND. Let's continue—I believe you have a Middle East presentation?

Admiral ZOBEL. Yes, sir, we can follow with our Indian Ocean facilities construction presentation.

Comdr. S. E. Beuby, director of our Indian Ocean Projects Office, will present that briefing.

STATEMENT OF COMDR. S. C. BEUBY, CEC, USN, DIRECTOR, INDIAN OCEAN PROJECTS OFFICE, NAVAL FACILITIES ENGINEERING COMMAND, DEPARTMENT OF THE NAVY

INDIAN OCEAN FACILITIES CONSTRUCTION

Commander BEUBY. Mr. Chairman, good morning, sir.

The increased U.S. Navy presence in the Indian Ocean is resulting in facilities construction at Diego Garcia, in Kenya and in Somalia. I will cover each of these locations in my briefing.

DIEGO GARCIA (INDIAN OCEAN) FACILITY

The Seabees have been constructing facilities on Diego Garcia since 1971. When the final Seabee battalion leaves Diego Garcia in July of 1982, Seabees will have completed construction funded by a total of \$72.5 million in appropriated funds. This will constitute essentially all of the operational and personnel support facilities which will exist on the island at that time.

[Chart deleted.]

This is the airfield as it now exists, and this is the housing and personnel support areas.

Future construction will be performed by civilian construction contractors.

The fiscal year 1980 supplemental and 1981 programs authorized slightly over \$124 million for Diego Garcia. These funds will enable dredging to provide necessary fill material, a 1,000-foot-long deep-water wharf and a sheltered small-craft basin, personnel housing, a dining facility and recreation facilities, various airfield support buildings and lighting, a supply warehouse complex and a 1,500-man temporary camp.

The Navy's request for fiscal year 1982 is \$122.8 million. This will provide an additional 1,000 lineal feet of wharf and a marine railway, more personnel housing and a medical clinic, additional utilities distribution, a parallel taxiway and parking apron at the airfield, and warehousing capability at the waterfront.

For your information, the Navy will also construct the fiscal year

1981 and 1982 Air Force program at Diego Garcia. This \$141.5 million program will provide for additional airfield buildup, including pavement and support buildings.

Air Force facilities are located in the airfield area and include fuel storage and refueling systems under parking aprons, Air Force dredging and an extensive apron itself and operational facilities that go along the edge of the new parking area. Our design of all the 1981 and 1982 Air Force projects is either completed or well underway at this time.

We are in the contracting process now to award a large cost-plus-award-free contract to a civilian joint venture construction firm for the construction of these new programs at Diego Garcia.

CPAF CONTRACT MILESTONES

<u>DATE</u>	<u>EVENT</u>
2 APRIL 81	COMPLETE TRIP TO DIEGO GARCIA/MAURITIUS
4-10 MAY 81	INTERVIEWS
22 MAY 81	SELECT CONTRACTOR
19 JUNE 81	AWARD CONTRACT
AUG 81	ADVANCE PARTY ON-ISLAND
NOV 81	CONTRACTOR CAMP COMPLETE
NOV 81	FIRST CONTRACTOR SHIP ARRIVES
DEC 81	FULL OPERATIONS

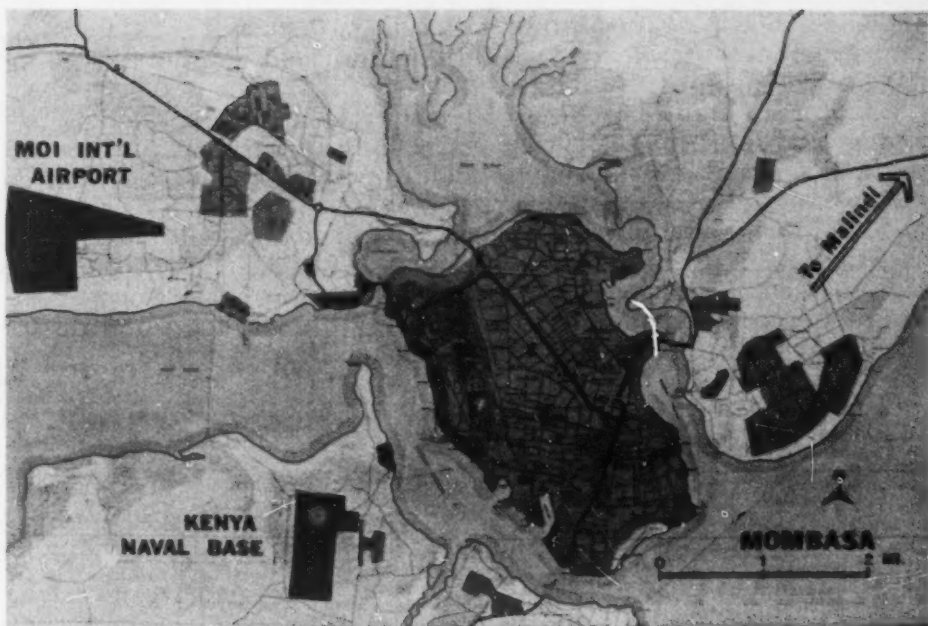
This slide shows the milestones toward accomplishment of this contract. These projected dates must remain tentative, as final timing will be subject to the mobilization plans of the successful contractor.

We expect to have full construction operations underway by December and anticipate that it will require about 4 to 5 years to complete this program.

We expect the dredging to produce 10 million yards of fill material, to be completed in 12 to 18 months. With your permission, sir, I will now shift to our East Africa locations.

KENYA (EAST AFRICA) PROGRAM

Our overall program for Kenya centers around the concept of providing support at or from Mombasa for deployed carrier battle groups.



This slide shows the location of Mombasa, its airfield and the Kenya Naval Base. In addition, alongside the existing section of taxiway we will pave a small parking apron.

In the 1982 program we are asking for money to construct a small air cargo terminal adjacent to that new parking apron and to provide for navigation and communication aids to the airfield.

[Chart deleted.]

This is a picture of Mombasa harbor, and the Kenya Navy Base is located here in the foreground. In our 1981 program we will be constructing an ammunition magazine just off the right of the picture here, on the Kenya Navy Base.

In the 1982 program we will be constructing a small warehouse complex and a communications building in this location, and we will be paving a 4-kilometer access road into the Navy base.

By far the largest item in our Kenya program is the dredging of the harbor. We propose to dredge an entrance channel, actually widen and deepen an existing entrance channel, into this location where we will dredge a 3,000-yard-wide turning basin which will make the harbor accessible to aircraft carriers at any time of the year in any weather and tidal conditions.

The price tag for that dredging right now is \$40 million. We received \$19.6 million in the 1981 program. Our request for 1982 is \$26 million, and we anticipate now a 1983 request of \$9 million to complete our requirements for Kenya.

SOMALIA (EAST AFRICA) FACILITIES

Shifting now to Somalia, our concept of use of Somalia centers around occasional support of fleet activities out of Berbera.

Berbera is located on the coast of Aden in the extremely northern part of the country of Somalia. There are two facilities that we are

interested in. First is the airfield, located 5 miles out of the city of Berbera. The second is the port in the city of Berbera.

By use of the term "city" I mean actually a village of 5,000 people. Both of those facilities were constructed by Russian forces to a very low degree of quality. I will show you first the airfield.

[Chart deleted.]

These are the aircraft dispersal hardstands at the airfield. Immediately behind them is the parking apron area which will improve by putting aircraft tiedowns on the pavement and constructing a small building just off the left of the pavement in the left portion of the slide.

[Chart deleted.]

These are the existing Russian communications-and-navigation-aids' vans. He will improve this area by constructing concrete slabs and supplying power. This is the center of the runway. We will improve the runway by striping the centerline down the runway and touchdown and numerical markings.

We will also provide some expeditionary-type airfield lighting for the runway.

We have received \$500,000 in our 1981 program for Somalia. The majority of that \$500,000 will go to these facilities at the airfield.

The port in Berbera is equally austere, but it is extremely busy right now, handling food shipments to the refugee camps located inland from Berbera.

Just off the edge of the wharf in the port is a small POL farm, a fuel farm. Our 1982 request is for two major facilities. The first is an extension to the existing wharf that will provide dedicated access to U.S. Navy vessels. The second is for a 75,000-barrel fuel tank in the fuel farm that will also provide dedicated facilities to the U.S. Navy.

This slide shows our total 1982 request of \$74 million. We anticipate no future funding requirements for Somalia. [Chart deleted.]

Sir, this completes my briefing.

Admiral ZOBEL. Mr. Chairman, that concludes our formal presentations. We are ready to answer any questions you may have now.

Senator THURMOND. I believe you covered your construction program at the Middle East bases in your opening remarks.

Let me get into some detail on the sites.

What bases do we now have in the Indian Ocean and Persian Gulf regions where our naval ships can call?

Admiral ZOBEL. Where they can do what, sir?

Senator THURMOND. Where they can call.

Admiral ZOBEL. We can now call at Kenya and Somalia and, of course, Diego Garcia. There are also some locations in the Persian Gulf where we can call.

Senator THURMOND. If conflict occurs in the region, what ports do we have where we can accomplish battle damage and minor ship repairs?

Admiral ZOBEL. Right now we are dependent on Diego Garcia, because it is under our control, as a result of the treaty with the British. We are very, very sure of Diego Garcia.

Senator THURMOND. Are you looking for additional ports in that region?

Admiral ZOBEL. Yes, sir. We would like to make improvements at Mombasa, Kenya, and Berbera in Somalia for our use.

Senator THURMOND. Are there any ports that are good liberty ports, that is, where the sailors can get some shore leave?

Admiral ZOBEL. Mombasa, we believe, is the best. It is a very good liberty port. That is one reason for dredging Mombasa harbor, so that the carriers can get in and the sailors go ashore.

Senator THURMOND. Based on your current construction plans, what will be the total cost for facilities at all the bases associated with the Middle East? Maybe you can provide a breakout by fiscal year for the record?

Admiral ZOBEL. Yes, sir, we will be happy to.

[The information follows:]

Funding profile for Navy construction in the Middle East (Littoral Nations) is as follows:

In millions of dollars]

	Fiscal year—		
	1981	1982	1983
Oman.....	13.0		
Somalia.....	.4	24	
Kenya.....	19.1	26	11

Note: Anticipated costs in Kenya are based upon international competitive bidding for dredging.

Senator THURMOND. Last year, this committee wrote into law the requirement that construction materials for these bases be of U.S. origin, that they be transported on U.S. ships. How have you implemented this provision and do you have any thoughts on it?

Admiral ZOBEL. We are following that direction, sir.

Senator THURMOND. What did you say the total cost of upgrading Diego Garcia is?

Admiral ZOBEL. For Navy, to date about \$300 million. Looking ahead, over the next few years, about another \$100 million.

Senator THURMOND. When you complete your plans for Diego Garcia, that island will be an extremely valuable asset, I presume?

Admiral ZOBEL. Yes, sir.

Senator THURMOND. It will also be extremely vulnerable, too, won't it?

Admiral ZOBEL. We believe with the battle groups that we have in the Indian Ocean, it can be protected certainly.

Senator THURMOND. What protective systems are you building to defend Diego Garcia?

Admiral ZOBEL. Outside of the runway area which could support aircraft based at Diego Garcia, no specific defensive systems are being located on the island.

Senator THURMOND. I believe you are planning construction there by contract?

Admiral ZOBEL. Yes, sir. There will be some continued work by the Seabees for the next 2 years, most of that in support of the contractor.

Senator THURMOND. How many people will be assigned to Diego Garcia when your construction is completed?

Admiral ZOBEL. Probably in the neighborhood of about 2,100, sir. We think the maximum we will have there during the construction period is about 3,000.

Senator THURMOND. What is the total cost to upgrade facilities in Kenya?

Admiral ZOBEL. Mombasa, about \$60 million.

Senator THURMOND. What is the main purpose or function of Kenya?

Admiral ZOBEL. Kenya will be a port of call, as we indicated, for aircraft carriers and other ships to provide liberty for our sailors. Dredging the entrance channel and the turning basin will allow us to get the larger ships—the aircraft carriers—inside the main harbor during all weather conditions so the sailors can go ashore and not have a long boat ride.

Kenya will also provide for carrier onboard delivery of replenishment stocks. Also, planes can refuel there and ships can get supplies when they come into port.

Senator THURMOND. I presume most of your costs there will be for dredging, won't they?

Admiral ZOBEL. Yes, sir. We anticipate about \$40 million in Kenya for dredging.

Senator THURMOND. What is the total cost?

Admiral ZOBEL. \$40 million for dredging and about \$60 million total for all the facilities.

Senator THURMOND. \$20 million additional besides dredging?

Admiral ZOBEL. Yes, sir.

Senator THURMOND. It is important for the sailors to have liberty in Mombasa. I am glad you are looking ahead to that.

Do you think this dredging is cost-effective?

Admiral ZOBEL. Yes, sir. We have now completed a hydrographic survey and we believe it is cost-effective.

Senator THURMOND. You could not anchor the carriers in the outer harbor and barge the sailors ashore?

Admiral ZOBEL. We can and we have done that. There is a problem when we have heavy weather. The sea state is such that small boats can not come ashore. That occurs for quite a few months during the year. Also, it takes a long time, even in calm weather, to get the boats ashore, so the sailors spend a long time on the boats rather than on the beach. The main thing is to get them to spend their time on the beach for liberty.

I would like to go back for a moment to your questions on problems of U.S. shipping and materials.

We are carrying out your direction on U.S. shipping. The committee established a Middle East base construction contingency fund of \$150 million under section 405 of Public Law 96-418. It required there that there be exclusive use of U.S. materials and U.S. shipping. That does pose some problems for construction contracts that we have with values less than \$5 million in both Kenya and Somalia. When the material is required to be shipped exclusively on U.S. vessels to construction sites located in an area which is not on a normal U.S. shipping lane, then that material can be delayed in delivery.

In order to meet a reasonable delivery schedule, it is probable that higher than normal shipping charges would be incurred. Second, the facilities that are being constructed involve expansion in connection with existing utilities and facilities, and mandatory use of U.S.

materials could cause some problems of compatibility between new and existing systems.

Also, the U.S. materials and equipment will create problems of routine maintenance by local personnel who have access to local parts and materials.

Based on those problems we propose that the committee amend section 405 to except contracts with values of less than \$5 million in Kenya and Somalia, and those modified provisions would restore the latitude granted by the Cargo Preference Act in 46 U.S.C. 1241, which we think should be followed in those circumstances.

We would propose that amendment, sir.

Senator THURMOND. Can our sailors get shore leave in Oman?

Admiral ZOBEL. I don't know if we actually have had sailors on shore leave in Oman.

Mr. TAYLOR. No, sir, we have not brought any of our ships into Oman; however, we do use some of their airfields' facilities for [deleted] aircraft operations. We have not actually brought a ship in for shore leave of personnel on board.

[Additional questions submitted by Senator Thurmond:]

OMAN

Question. How much do you have in your request for Oman?

Answer. The current program contains no Navy request for Military Construction funds in Oman.

Question. What is the total cost to upgrade facilities in Oman as you now see it?

Answer. The fiscal year 1981 DOD contingency fund apportioned \$13 million for the Navy in Oman. There are future Navy requirements for fuel storage, personnel support facilities and airfield facilities at an estimated value of \$38 million. These facilities have not yet been identified to a particular fiscal year program.

Question. What specific capabilities are you seeking to achieve here?

Answer. [Deleted.]

SOMALIA

Question. How much do you have in your request for Somalia?

Answer. The fiscal year 1982 budget request contains \$24 million, primarily for a wharf extension and waterfront work at Berbera Port.

Question. What is the total cost to upgrade facilities in Somalia as you now see it?

Answer. The total cost is \$24.4 million. This consists of \$0.4 million in the fiscal year 1981 DOD contingency fund and the \$24 million in the fiscal year 1982 budget request. Of this total, approximately \$0.8 million will provide improvements at Berbera airfield, with the remainder expended on the port.

Question. What specific capabilities are you seeking to achieve here?

Answer. The airfield will be used to support P-3 and logistics aircraft. The port will provide fueling and general supply operations. The port will also provide capability to make emergency repairs by deploying a repair ship whenever it is necessary.

Senator THURMOND. Do you have anything else you wish to add?

Admiral ZOBEL. So, sir, I don't think so.

Senator THURMOND. General Petersen, I want to ask you a few questions about Parris Island.

General PETERSEN. Yes, sir.

Senator THURMOND. I am somewhat interested in that, too.

General PETERSEN. I understand.

Senator THURMOND. General Petersen, the Marine Corps conducts the best recruit training in the world, does it not?

General PETERSEN. We feel it is the best.

Senator THURMOND. I imagine you would say so anyway?

General PETERSEN. Yes, sir.

Senator THURMOND. I think you also agree, the best Marine recruit training is conducted at Parris Island?

General PETERSEN. That is also the case.

Senator THURMOND. The answer is yes?

General PETERSEN. Yes, sir.

Senator THURMOND. General, it is true the depot at Parris Island has excellent facilities. The new complex for women marines is quite attractive and functional. However, I am concerned over the World War II temporary buildings that are used as a reception center.

When are you going to program the replacement of that reception?

General PETERSEN. We will program that in fiscal year 1983.

Senator THURMOND. How much will the new reception center cost, and could you put one under contract in 1982?

General PETERSEN. It would be about \$9 million, sir.

Senator THURMOND. \$9 million?

General PETERSEN. Yes, sir.

Senator THURMOND. You don't want to put that under contract in 1982?

General PETERSEN. Yes, sir, if we can, we certainly would like to.

Senator THURMOND. You would like to?

General PETERSEN. Yes, sir.

Admiral ZOBEL. And we could, Mr. Chairman.

Senator THURMOND. Would you like us to include it in the bill?

General PETERSEN. Yes, sir.

Senator THURMOND. I might ask a few questions here on shipyards.

This committee has expressed concern in the past over the condition of facilities at the Navy shipyards. Would you discuss your shipyard modernization program to include the backlog of construction and your proposed funding for the future?

Admiral ZOBEL. Yes, sir. I would like to ask Mr. Murphy to answer that question.

Mr. MURPHY. Mr. Chairman, our funding for shipyard modernization construction in recent years has averaged about \$65 million per year. This year the request is just about that same number, \$67 million.

Our backlog, waiting to be accomplished, is \$1.3 billion. So, as we have proceeded with annual funding in the \$60 to \$70 million range, we are obviously not making any inroads into that backlog. We are looking forward in the early 1980's to annual programs of perhaps \$150 million per year. That is our objective. That is the level that we see needed to make a meaningful dent in that backlog.

Senator THURMOND. There has been some discussion about going to a Navy shipyard for new ship construction. Which Navy yard is the most likely candidate for new ship construction, and how much would it cost to get it in shape, and when could it be ready to start on a new ship.

Mr. MURPHY. We have made some detailed studies of three shipyards, Mr. Chairman, that have the potential for construction of attack submarines. As the Secretary has testified, we are still evaluating the relative merits of each yard, with a view to making a decision on possibly starting construction sometime by the end of this year,

1981; but no decision has been made on either beginning construction or on a yard that might do that construction at this time.

Senator THURMOND. You don't have an idea then what it will cost?

Mr. MURPHY. No, sir. We don't have any hard figures on what kind of military construction we have to begin immediately. All three of the yards have in place now facilities that could be reactivated or upgraded relatively quickly to put them back in the business of constructing, since they did perform construction at one time; not for the past 10 years, however.

Senator THURMOND. Let me focus on the Charleston shipyard for a moment. What is the backlog of construction at Charleston?

Mr. MURPHY. Of the \$1.3 billion total, the backlog at Charleston is \$176 million, of that total.

Senator THURMOND. Why aren't you putting more money in the Charleston facilities?

Mr. MURPHY. The answer to that, sir, is that we have a finite amount of money to spend each year. At the moment we are sort of overwhelmed with deficiencies of large powerplant steam production facilities. The major problem is out at Puget Sound, Wash. That is the facility that is the major part of our request this year. We are compelled to get on with that programing because we are actually in danger of having a shutdown.

As we get those priority items worked off in 1982 and 1983, we foresee an addressal of the projects in Charleston, both the electrical distribution system and the steam plant there are also on our list.

Senator THURMOND. You say you are spending billions of dollars in some places.

Mr. MURPHY. At Puget Sound, Wash., this year the major part of our shipyard request is to start that powerplant there. That is the total project of \$150 million for which we are seeking the first phase this year.

Senator THURMOND. I am advised there are two high priority projects for Charleston shipyard not in your request but they could be put under contract in fiscal year 1982. Specifically, I refer to the crane maintenance shop in phase III of the electrical distribution system upgrade. These projects could be put under contract in fiscal 1982 if funds are made available?

Admiral ZOBEL. Sir, on the crane maintenance shop, we could get an award in fiscal year 1982. The naval station electrical distribution system would probably be at the end of 1982, if we made it. It would be close.

Senator THURMOND. Will you provide details on these projects for the record?

Admiral ZOBEL. Yes, sir.

[The information follows:]

The following details are provided regarding construction contract awards:

Activity: Project	Cost (thousands)	Present design status (percent)	Projected award date
NSY Charleston, S.C.: Crane and equipment maintenance shop.....	\$13,600	35	February 1982.
NS Charleston, S.C.: Electrical distribution lines.....	9,600	0	September/October 1982.

Senator THURMOND. Would you discuss the McAlloy proposal and does it make sense for the Navy to pursue this proposal?

Admiral ZOBEL. I would like to ask Mr. Murphy to talk to that again. He is most familiar with those details.

Mr. MURPHY. As I showed on the slide earlier, that steam line to bring a reliable source of steam to our waterfront is a high priority project with us. From the outset we envisaged obtaining the steam from our coal plant up in the shipyard. That is a \$16 million project, mainly a transmission line. It has a rapid payback to change to coal from oil. We would anticipate about a 6-year payback if we were to proceed on that solution.

Now, within the past year, McAlloy has approached the Navy and we have become very interested in the possibility of obtaining steam from their industrial operation. McAlloy is producing metal alloy, using electrical furnaces. They have the potential for producing steam as a byproduct. It would involve some \$50 million of capitalization on McAlloy's part to get into the business of producing steam.

So, at the moment two things are happening: We are working with McAlloy on a possible contract for furnishing steam. McAlloy is in the process of trying to find financing for the capital improvements he will have to make.

In any event, in either of the two cases the Navy would need legislation, that is, military construction authority and funds, to construct the steam line and the facilities that will occur on the naval station in Charleston.

We recommend proceeding in 1982 with authority and funding for the steam line on the base using the Navy's coal plant source, with language providing an alternative, depending on the outcome of the McAlloy proposal, to construct the steam line from the potential source at McAlloy. If it turns out favorably as an option, then we can go to that alternative.

We will need a few more months to get that worked out completely, sir.

Senator THURMOND. At this point I would like to include testimony for the record by Senator Lloyd Bentsen concerning the Dallas Naval air station. We will take a 5-minute recess now, before we call the Air Force.

PREPARED STATEMENT OF SENATOR LLOYD BENTSEN TO THE SENATE APPROPRIATIONS
SUBCOMMITTEE ON MILITARY CONSTRUCTION

Mr. Chairman: Thank you for the opportunity to submit testimony in support of continued funding for the acquisition of land for a clear zone north of the Dallas Naval Air Station. Last year, Congress approved the first of three stages of funding for the clear zone by appropriating \$4 million. Today, I am requesting funding for the second stage, \$5.55 million.

In April, 1978, the Department of the Navy published an Air Installation Compatible Use Zone (AICUZ) study of the Dallas Naval Air Station, a Naval Reserve facility located in Grand Prairie. From that study, the Navy concluded that it should purchase the residences, school, and commercial structures located within a 100-acre area immediately north of the runway.

The situation is as follows: The Dallas Naval Air Station is a heavily used facility, handling more operations than many full-fledged air bases. Residents and workers to the north of the station's runway are currently exposed to high levels of noise and hazards from low-flying aircraft. Because of the Navy's announced intention to clear this tract of land, it has been extremely difficult for residents to sell their property, except at depressed prices. With our actions last

year the Navy was able to begin the purchase of this land at a fair market value. Beginning in June, 101 residential units will be purchased.

The \$5.55 million I am requesting today will enable the Navy to acquire an elementary school located within the clear zone, undeveloped property in the area and some miscellaneous costs associated with the acquisition.

It is becoming increasingly difficult for the Grand Prairie School Board to continue operating the elementary school at its present location. The noise and safety factors continue to pose a threat to the children attending that school. In addition, to prevent further increases in land value, the undeveloped land should be purchased at this time. To do otherwise will only allow land speculators to come in and bid up the price of the land. By postponing the process of acquisition we virtually guarantee a higher final cost.

Mr. Chairman, I strongly support the efforts of my colleague from the House, Congressman Martin Frost, and urge the subcommittee to appropriate the additional \$5.55 million for the second phase of this important project.

Senator THURMOND. Also, subsequent to the hearing the following letter was received from Mr. Dick Murphy, councilman, seventh district, city of San Diego.

SAN DIEGO, April 30, 1981.

Senator STROM THURMOND,

Military Construction and Stockpiles Subcommittee, Senate Armed Services Committee, Russell Senate Office Building, Washington, D.C.

DEAR SENATOR THURMOND: One of the items which is included in the Department of Defense Housing package is a proposal by the U.S. Navy to build some 300 housing units in San Diego as the first increment of up to 1,500 units in the next five years.

The City of San Diego and the Navy Housing Task Force, of which I am chairman, strongly support the building of this housing for the Navy. However, the Navy has designated as its preferred site for this housing, land within and immediately adjacent to Mission Trails Regional Park. I must tell you that there is considerable community opposition to this site, opposition made all the more intense because there are alternative sites available.

Mission Trails Regional Park is over 6,000 acres of park land consisting of lakes, rivers, mountains, and canyons almost entirely within the city limits of San Diego. When completed, we believe the park will be the largest urban park in America. After more than two decades of planning and work, acquisition of the final parcels in the park is nearing completion. I have enclosed a copy of the Master Plan completed in 1976 as well as copies of the San Diego City Council and the San Diego County Board of Supervisors actions taken in regards to this park. (San Diego City Council Resolution No. 221186 dated June 19, 1978; San Diego County Board of Supervisors Document No. 551010 dated November 23, 1977). The City and the County of San Diego had been in the process of having the federally owned land within the park released for park purposes when we were informed that the Navy wished to build housing on this land.

I have enclosed a copy of a letter written on behalf of the Task Force to Admiral John Paul Jones, Jr., Commander of Western Naval Facilities Command. It outlines seven alternative sites for the first increment of housing. In addition, several of the sites, particularly in combination with others, would be ideal for consideration for the entire long-range housing program. In addition, the City Planning Director and I will be going to San Bruno, California on May 8th to meet with Admiral Jones to further discuss the matter.

I would ask, therefore, that the committee direct the Department of Defense to build the first increment of housing in a location other than Mission Trails Regional Park and its environs. This would give the Navy Housing Task Force and the community the necessary time to work with the Navy in establishing a long-range housing program, integrated with the San Diego Region's balanced communities objectives, and provide for the much-needed Navy housing.

Thank you for your consideration in this matter. Should you have any questions, please do not hesitate to contact me.

Best regards,

DICK MURPHY,

Chairman, Navy Housing Task Force.

[Enclosures retained in committee files.]

[Senators Strom Thurmond and John W. Warner submitted the following additional questions to be answered for the hearing record:]

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

ENERGY

SOLAR

Question. Your request contains many projects which include solar systems. How did you determine which projects would include solar systems and what size the solar system would be?

Answer. Every military construction project with solar system potential has a life cycle cost analysis performed to determine if systems are economically feasible. The analysis is conducted for each of the following solar systems where applicable: space heating and domestic water heating, domestic water heating only, space heating only, solar cooling, and process heating. The lowest life cycle cost is then used to select the type of system and its size.

Question. What is your opinion of Section 804 of last year's bill as it has been implemented?

Answer. The Navy would prefer to invest energy conservation funds where they would provide the greatest savings per dollar spent. From the Navy's point of view, a more cost effective policy would be to invest dollars in energy conservation projects rather than solar systems, i.e., insulation and lighting improvements. This type of energy conservation project requires \$150 of construction funding per barrel of oil equivalent saved whereas the cost of the solar systems which would be installed in accordance with Section 804 would require \$1,500 in construction funds per barrel of oil equivalent saved. For example, an additional 50,000 barrels of oil equivalent could be saved if the money were applied to Energy Conservation Investment projects vice solar projects qualifying under Section 804.

At the present time solar is life cycle cost effective in very few ideal cases. As a result of continuing high initial cost and relatively low energy costs, it will be quite a few years before it is an effective conservation option in competition with more conventional options such as insulation, etc. In new construction applications, the cost effectiveness even in optimal cases is marginal. Navy's opinion is that all potential applications should be investigated and that solar systems should be included in the project where they are life cycle cost effective using a seven percent discount rate, reasonable operation and maintenance costs, and DOD estimates for fuel escalation rates.

Question. Provide for the record a copy of your instructions to the field implementing Section 804.

Answer. Implementing instructions are:

a. Naval Facilities Engineering Command message of 12 February 1981 to the Engineering Field Divisions, Message follows, quote:

Subject: Fiscal year 1982 MCON Projects with Solar Energy Systems.

A. Comnavfacengcom Alexandria, Va. 080835Z Dec. 1980.

B. Comnavfacengcom Alexandria, Va. 122335Z Feb. 1980.

1. Ref (a) discussed differences in criteria for solar systems which exist between appropriation and authorization acts, and stated that design development for fiscal year 1982 and fiscal year 1983 MCON programs would continue to be in accordance with ref b.

2. In order to avoid changes in the bidding package if it is later determined that the maintenance cost/discounted dollars version of the economic criteria will apply to fiscal year 1982 MCON project awards, second sentence of para 5 of ref b is cancelled. Solar systems for fiscal year 1982 MCON projects shall be established as additive bid items. Unquote.

b. Naval Facilities Engineering Command message 8 December 1980 to the Engineering Field Divisions. Message follows, quote:

Subject: MCON Projects with Solar Energy Systems, guidance for A. Navfac ltr 0513/GAL of 23 Oct. 1980; B. Navfac spdltr 0513/GAL of 11 Dec. 1980; C. Navfac 122335Z Feb. 1980.

1. The fiscal year 1981 MCON Appropriation Act provided new economic guidance regarding calculating solar systems payback which considers maintenance

costs and discounted dollars. The impact of this criteria change has been to omit the solar systems from some of the fiscal year 1981 projects for which solar was originally proposed. Refs a and b pertain. Attempts are underway to resolve differences in criteria which now exist between the appropriation and authorization acts. Pending a resolution, ref c continues to apply in the design development of the fiscal year 1982 and fiscal year 1983 MCON programs.

2. Despite the harsher criteria for the fiscal year 1981 program, this HQ remains strongly supportive of the objective to conserve fossil fuels by installing solar systems whenever economically feasible. In implementing this policy, addresses are expected to fully analyze all possible solar applications and carefully review all cost estimates to ensure that potential solar applications are not discarded because of an overly conservative approach. The use of innovative solar energy systems remains a high priority in MCON design considerations. Unquote.

c. Naval Facilities Engineering Command message of 12 February 1980 to the Engineering Field Divisions. Message follows, quote:

Solar Energy Guidance on fiscal year 1982 MCON/MCNR Facilities.

A. Navfacinst 11010.14M of 14 Dec. 1978.

1. In fiscal year 1979 Auth Act required that 25 percent of all new facilities except family housing include solar energy systems to the extent that engineering analysis demonstrate cost effectiveness. Expect goal attainment Navy-wide for the fiscal year 1980 and fiscal year 1981 MCON/MCNR Programs.

2. The fiscal year 1980 Authorization Act repealed the prior solar provision and established new procedures for all new construction projects, including family housing, placed under design after 26 Nov. 1979. In general, this applies to projects included in the fiscal year 1982 and subsequent MCON/MCNR Programs, and reinforces the intent of Congress for wider use of solar applications.

3. Accordingly, the following actions, which amplify instructions on page 4 of enclosure (1) to reference (a) are required:

1. Prepare a solar energy analysis for each new construction project where the potential exists to save fossil fuel derived energy.

2. Results of the solar energy analysis shall be addressed in the PED, stating the feasibility or infeasibility of each new construction project, as appropriate.

3. A Solar Energy System shall be included in any project where determined to be cost effective. It is cost effective if the original investment cost differential for the solar system can be recovered over the expected life of the facility. In conducting the life cycle cost analysis, the solar system O&M cost differential will be considered zero and all calculations will be based on undiscounted, non-constant dollars.

4. For projects in which the solar energy analysis determines that a Solar Energy System is cost effective, the PED shall include the following additional information:

1. Type solar system included (DHW/space heating/cooling).

2. Type and area of collectors.

3. Solar system cost (exclude SIOH and contingency).

4. Average annual energy savings and fuel used.

5. Annual energy savings in barrels oil equivalent (BOE).

6. Percent energy contribution from solar system.

7. Payback (in years) of solar system cost.

8. Solar system design cost.

5. The cost for the solar application shall appear as a separate item in the 1391 cost estimate. In general, the solar system shall be part of the base bid rather than an additive bid item. Unquote.

d. Naval Facilities Engineering Command letter 0513/GAL of 11.

Dec. 1980 without enclosure (1) to the Engineering Field Divisions. Letter follows, quote:

Subject: Solar Energy Applications for fiscal year 1981 MCON Projects; guidance for:

Reference: (a) Comnavfacengcom ltr 0513/GAL of 23 October 1980

Enclosure: (1) MCON Projects with Potential for Satisfying Current Analysis Criteria

1. Reference (a) limited proceeding with solar energy applications to nine projects, unless, for other projects, another economic analysis determined the project was cost effective.

2. The guidance provided by reference (a) for economic analysis is valid. However, economic analysis computation is sensitive to the cost of the solar system. Therefore, it is advisable to obtain the real cost of solar systems for some projects that appear feasible by making them additive bid items to the construction contract.

3. The projects listed in enclosure (1) have the potential for satisfying the latest DOD solar economic criteria explained in reference (a). If the actual bid cost comes in less than the upper limit for solar system shown in enclosure (1) and the estimated annual fuel savings is equal to or greater than that shown in enclosure (1), then the solar system is cost effective and should be awarded.

4. Wherever practicable, invitations for bids for construction contract documents for projects listed in enclosure (1) should include an additive bid item for the solar application.

Signed.

Unquote.

e. Naval Facilities Engineering Command letter 0513/GAL of 23 Oct. 1980 with enclosure (2) only to the Engineering Field Divisions. Letter follows, quote:

Subject: Fiscal year 1981 MCON Program, Approved Solar Energy Applications for:

Reference: (a) NAVFAC msg 022047Z Nov. 1978.

Enclosure: (1) List of MCON Projects with approved solar energy applications; (2) Methodology for Determining Cost Effectiveness of Solar System; (3) Table of Fuel Costs by Region and State.

1. Enclosure (1) lists those authorized and funded projects for which solar energy applications are considered cost effective. Execution of these projects should proceed with the solar installation as an additive bid item in accordance with reference (a).

2. The enclosure (1) list was derived using new criteria from OSD attached as enclosures (2) and (3). Under this guidance, many of the proposed solar applications did not qualify as cost effective and therefore have been omitted from enclosure (1). The following actions are requested:

a. Review omitted proposed solar systems based on enclosures (2) and (3). Review particularly current cost estimate for the solar system proposed as well as the design concept. Downward revisions in estimated solar cost may result in the solar system becoming cost effective; in a case where a total system fails to qualify, a severable portion such as domestic hot water may meet the economic criteria.

b. Provide this Headquarters with the economic analyses for those additional projects determined to be cost effective based upon the review discussed in paragraph 2.a.

Signed.

Enclosure (2).

METHODOLOGY FOR DETERMINING COST EFFECTIVENESS OF SOLAR SYSTEM

1. As a result of recent economic analysis guidance from OSD, solar energy applications shall be judged cost effective using life cycle cost analysis with a discount rate of 7 percent per year and a fuel differential escalation rate of 8 percent per year. Yearly operating and maintenance (O&M) costs shall be calculated as 3 percent of the solar cost of the project.

2. Perform the life cycle cost analysis using the following formula:

$$SIR = \frac{(25\text{-yr energy savings}) - (25\text{-yr O. \& M. costs})}{\text{Solar cost}}$$

3. The SIR must be greater than one for the Solar System to be cost effective.

4. The 25 year energy savings shall be calculated as follows:

$$25\text{-yr energy savings} = \left(\frac{\text{Fuel cost per MBTU in 1980 dollars}}{1.14} \right) (1.14) \left(\frac{\text{MBTU saved per year}}{28.15} \right) (28.15)$$

a. Obtain the appropriate DOE region "Fuel Cost Per MBTU" from Enclosure (3) or use the actual cost of fuel for the activity whichever is higher.

b. "1.14" escalates fuel costs from 1980 to 1981 dollars.

c. "MBTU saved per year" is the estimated yearly savings from the design documents.

d. "28.15" is the present worth factor (PWF) for a 25 year system life with a discount rate of 7 percent and a fuel escalation rate of 8 percent.

5. The 25 year O&M costs shall be calculated as follows:

25 Year O&M costs equals (0.03) (Solar Cost) (12.06).

a. Solar cost is 100 percent of solar construction cost.

b. "12.06" is the PWF for a 25 year system life with a discount rate of 7 percent and a differential escalation rate of 0 percent. Unquote.

Question. Do you agree with the life cycle costing procedures for solar systems as promulgated by DOD or do you feel there should be some changes?

Answer. The Navy agrees with DOD's procedures.

ENERGY MONITORING AND CONTROL SYSTEMS (EMCS)

Question. Discuss your progress in getting your EMCS projects implemented. Are they yielding the anticipated return?

Answer. EMCS projects which were able to use off-the-shelf systems manufactured by heating, ventilating and air-conditioning manufacturers are generally operating successfully and are providing savings equal to or greater than originally projected. The newer generation of distributed processing EMCS's are experiencing some delays while the manufacturers work the bugs out of their new designs. This process may take time since many of the bidders on the early generations of distributed processing EMCS were smaller companies which are unable to apply the resources a large company dedicates to the development, production and support of a new product.

GEOHERMAL ENERGY RESOURCE DEVELOPMENT

Question. Would you briefly update us on the Navy's geothermal development efforts?

Answer. The Navy is today converting the Naval Station Keflavik, Iceland to geothermal space heating which will save approximately 175,000 barrels of oil equivalent annually when completed.

Also, the Navy has contracted with a private developer for 75 megawatts of geothermally generated electricity using the Navy-owned geothermal resources. When the first 20 megawatt increment is completed in 1984, this will save 250,000 barrels of oil equivalent annually.

Question. What is the status of the geothermal development at Coso?

Answer. The contractor, California Energy Company, Inc., completed his preliminary geologic examinations and selected the initial drilling sites. During this time he was also busy obtaining the necessary capital to proceed with the exploration effort. The environmental work required prior to drilling has been completed and well drilling should commence in June. Three wells are to be drilled during 1981 at a cost to the contractor of approximately \$8 million to prove the resource. Full field development and plant construction would commence in 1982 and be completed in 1984.

Question. What authority did you use to commence this effort?

Answer. Public Law 95-356, the fiscal year 1978 Military Construction Authorization Act provided that the Secretary of the Navy may develop, for the use or benefit of the Department of Defense, any geothermal resource on lands under his jurisdiction other than public lands administered by the Secretary of Interior.

Question. Could you develop geothermal resources at other sites using this authority?

Answer. Yes. However, the complexities encountered due to the Navy's fee-owned lands being intermingled with public lands withdrawn for Navy use, greatly delay this effort. Without these complexities, Navy can place a geothermal resource under contractual development in a year or less once the resource is sufficiently identified. The problem under existing legislation is that prior to contracting for development, an agreement must be consummated with the Department of Interior defining the relative roles of the two agencies in handling the two different land types. Due to the inherent delays of the bureaucracy involved, our experience has been that this effort, alone, can take years, in addition to the time Navy needs to let a contract.

Question. Is there anything this committee could do to assist you in accelerating this process?

Answer. Yes. Legislation that would allow the Navy to develop any geothermal resource, including public lands, would eliminate the several year delay in reaching an agreement with Interior.

Question. Would you provide a draft of language giving such authority?

Answer. The Navy's suggested language is:

Sec. — The Secretary of each military department may develop, for the use or benefit of the Department of Defense, any geothermal energy resource within lands under his jurisdiction, including public lands, provided that is determined that such development is in the public interest, and will not deter commercial development and utilization of other portions of the resource if offered for leasing.

GENERAL

Review your progress in the areas of:

Question. Conversion of power plants to coal.

Answer. The Navy currently has seven plants on line or nearing completion which will burn coal and displace 1,550,000 barrels of oil equivalent per year. Funds to replace or convert plants at the Navy Shipyard, Puget Sound, WA, and the Naval Ordnance Station, Indian Head, Md. to coal are being requested for fiscal year 1982. If funded, these two plants would displace an additional 526,000 barrels of oil equivalent per year.

Question. Use of refuse derived fuel.

Answer. The Navy currently has four incinerators which burn refuse at the Naval Station, Norfolk, Va.; Naval Shipyard, Norfolk, Va.; Naval Air Station, Jacksonville, Fla.; and Naval Station, Mayport, Fla. The operations of these plants are closely monitored to ascertain future applications. Additionally, the Navy is evaluating participation in regional refuse derived fuel projects if such participation is cost effective.

Question. Use of biomass fuel.

Answer. The Navy has requested fiscal year 1982 funds for the conversion of two boilers at the Naval Air Station, Brunswick, Me. to wood. Ninety percent of the station's heating requirements are expected to be met by wood saving 52,000 barrels of oil equivalent per year.

CONSTRUCTION BACKLOG AND EXPENDITURES

Question. Last year you reported that your construction backlog was growing in constant dollar terms. Update your charts and discussions from last year's testimony.

Answer. The following table shows the total military construction backlog since fiscal year 1974. These amounts are constrained by the resources realistically expected to be available over the next five years. The Navy's request for authorization in fiscal year 1982 is approximately \$1.2 billion. This request is sufficient to satisfy the Navy's immediate facility requirements and enables the Navy to "hold its own" with regard to the backlog. If the backlog could be frozen today it could probably be eliminated in approximately 10 years at today's funding level. However, the military construction program is dynamic and changes from year to year. As new weapons systems are developed and our present facilities age, the backlog will change to reflect the construction required to provide support for these new weapons systems and to replace and modernize our existing facilities.

MILITARY CONSTRUCTION REQUIREMENTS LIST

[In billions]

	Total projects in Milcon requirements list	
	Then-year dollars	Fiscal year 1982 dollars ¹
Fiscal year program:		
1974.....	8.6	16.8
1975.....	8.3	15.4
1976.....	8.3	15.4
1977.....	7.9	12.1
1978.....	8.1	11.4
1979.....	8.9	11.4
1980.....	8.9	10.9
1981.....	10.3	11.8
1982.....	12.4	12.4

¹ Then-year dollars were adjusted to fiscal year 1982 using engineering news record index of construction cost.

Question. Similarly update your testimony and charts from last year's transcript regarding construction expenditures.

Answer. The following tables shows Milcon authorization in terms of actual fiscal year dollars and constant fiscal year 1982 dollars. The authorization expressed in constant dollars reflects a general downward trend for the fiscal year 1974-80 time period. The fiscal year 1981 and fiscal year 1982 programs shows an upturn attributable to the Indian Ocean build-up and the Navy's decision to begin a facilities upgrade program.

MILCON AUTHORIZATION (NAVY)¹

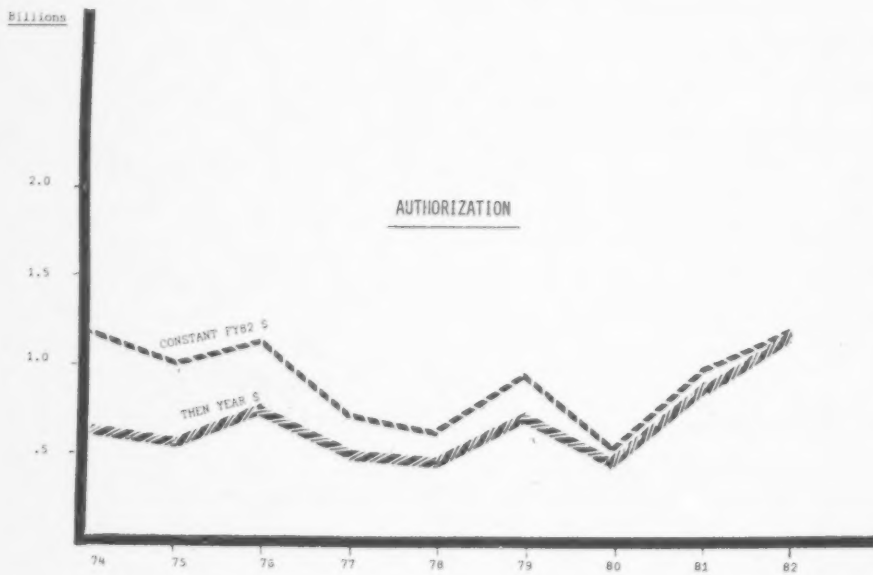
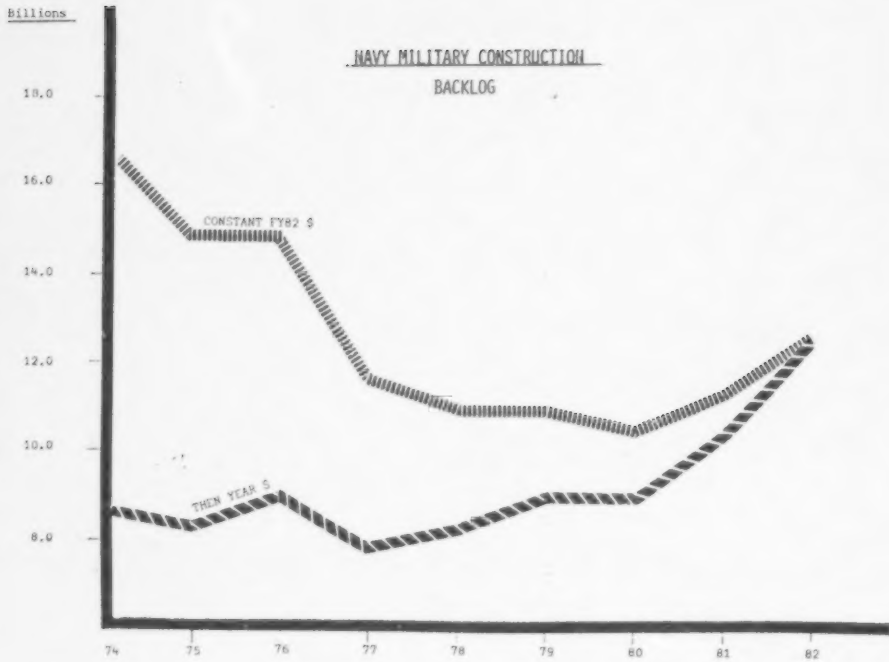
[In thousands of dollars]

	Actual	Fiscal year 1982
Fiscal year:		
1963.....	140,750	587,000
1964.....	202,988	829,000
1965.....	228,619	902,000
1966.....	324,899	1,253,000
1967.....	148,677	548,000
1968.....	471,781	1,702,000
1969.....	253,065	852,000
1970.....	314,677	950,000
1971.....	275,751	800,000
1972.....	325,836	833,000
1973.....	537,810	1,246,000
1974.....	619,682	1,252,000
1975.....	564,496	1,048,000
1976.....	705,509	1,212,000
1977.....	500,936	767,000
1978.....	453,654	636,000
1979.....	770,310	988,000
1980.....	459,490	539,000
1981 (requested).....	991,692	1,078,000
1982 (requested).....	1,175,283	1,175,283

¹ Figures do not include family housing or naval reserve construction. Military construction in Southeast Asia during the Vietnam war is not included.

Question. Provide a graph showing construction backlog and construction expenditures both in constant and then-year dollars, identifying and discussing any anomalies.

Answer. The following backlog graph reflects that in constant dollars, the backlog has steadily declined except for the current and previous year. The downward trend is attributable to the Navy's continual effort to purge from the backlog those projects that are not considered competitive for funding within the next five years. The backlog increase in fiscal year 1981 was primarily due to the Marine Corps identifying \$800 million in new projects for the Western Pacific. The increase in fiscal year 1982 represents the additional requirements identified for the Indian Ocean, the shipyard modernization program, coal conversion program and a land acquisition program to solve encroachment problems.



PROJECTS—GENERAL

Question. Is every project in your request under design? (If not, provide a list of those projects not under design, give the design start and completion dates, and explain the delay.)

Answer. All projects in Navy's fiscal year 1982 request are under design.

Question. What rates of inflation have you used in estimating the costs of projects in your request? Provide an example showing how inflation is factored into your estimates.

Answer. The rates of inflation used in preparing our cost estimates were promulgated by the Office of the Secretary of Defense in September 1980, these rates are indicated below.

Fiscal year:	September 1980 (percent)
1981	10.80
1982	8.90
1983	7.90
1984	7.20
1985	6.70
1986	6.70
1987	6.70

Each project was reduced by 2.9 percent for inflation in February 1981.
An example showing inflation factored into an estimate follows:

EXAMPLE

E=Engineering Cost Estimate.

E=\$1,500,000.00—Prices effective as of 1 October 1979.

P=Current cost Escalation Factors for projected cost growth from the time the estimate is prepared to an assumed bid opening date are used in this example.

Assumed Bid Opening Date—April 1, 1982.

Assumed Completion Date—January 1, 1983.

OASD(C) Outlay Cost Escalation Rate—Fiscal year 1980 equals 10.4 percent; fiscal year 1981 equals 7.93 percent; fiscal year 1982 equals 8.7 percent.

Cost Escalation from October 1, 1979 to April 1, 1982:

Fiscal year 1980: October 1, 1979 to September 30, 1980 equals 10.4 percent or 1.104.

Fiscal year 1981: October 1, 1980 to September 30, 1981 equals 7.93 percent or 1.0793.

Fiscal year 1982: October 1, 1981 to April 1, 1982 equals 8.7 times (6 months) divided by 12 months equals 4.35 percent or 1.0435.

P=Cost Escalation Factor (1.104 times 1.0793 times 1.0435—1) equals 0.243.

Subtotal (E (1.00+P))=\$1,500,000.00×1.243.....\$1,864,500

Rounded 1,865,000

Contingency (5 percent).....93,000

Subtotal 1,958,000

Supervision, Inspection and Overhead (5.5 percent).....108,000

Total 2,066,000

Rounded 2,050,000

MILCON current price escalation factors .

Fiscal year:	Annual Rates Percent
1980	10.4
1981	7.93
1982	8.7
1983	7.3
1984	6.2
1985	5.5
1986	5.0
1987	5.0

Question. Provide a list of projects in this request that were previously requested and failed authorization. State the reason the project was not authorized.

Answer. The following projects were previously requested by the Navy and failed authorization for the reasons noted:

[Dollar amounts in thousands]

Activity: Title	Fiscal year	Fiscal year Amount of original request	Fiscal year 1982 request
Marine Corp Air Station, El Toro, Calif.: Operational trainer facility.....	¹ 1981	\$2,900	\$3,550
Defense installations, Mariana Islands: Land acquisition.....	² 1981	28,200	32,000

¹ Project was denied authorization because the facility was not required in fiscal year 1981 due to a delay in the delivery of the trainer.

² Project was denied authorization because "the defense requirement for the land was not justified."

Question. Provide a list of projects in this request that were previously authorized, but for some reason were never built. State the reason the project was not built.

Answer.

[Dollar amounts in thousands]

Activity: Title	Fiscal year	Prior authori- zation	Fiscal year 1982 authori- zation	Note
Naval Air Station, Brunswick: Ordnance handling pad.....	1981	\$1,150	\$1,450	1
Naval Air Station, Alameda: Pier improvements.....	1981	7,250	7,500	1
Naval Training Center, Orlando: Academic instruction facility.....	1981	2,300	2,450	1
Naval Communication Station, Keflavik: Antenna tower and helix house.....	1981	3,600	4,000	1
Naval Weapon Station, Charleston: Religious education building.....	1981	1,500	470	2
Naval Air Station, Brunswick: Aircraft maintenance facilities.....	1979	2,850	1,450	3

1. Projects authorized in fiscal year 1981, but denied funding. Increased authorization and funding required to allow for increased costs due to inflation. No scope differences.

2. Project authorized in fiscal year 1981 as a "Chapel and Religious Education Building" at \$1,500,000. Project was funded at \$1,000,000 for the chapel portion of the project only. The current working estimate for the chapel portion of the project is approximately \$1,000,000. The current working estimate for the religious education portion of the building is \$470,000. The project can be constructed within the fiscal year 1981 authorization.

3. Project authorized in fiscal year 1979 as "Avionics Shop Addition" at \$2,850,000. After bid opening, it was found that full scope could not be obtained within the funded authorization and some scope was deferred. This year's request represents only that deferred scope. New authorization and funding is required to allow for increased costs due to inflation.

Question. Are any projects in your request impacted by pending or planned base realignment announcements? (Provide a list and discuss the potential impact of the realignment announcement.)

Answer. The Navy currently does not have a list of installations identified as realignment or closure candidates. However, in light of the President's efforts to reduce spending and the Navy's ongoing program to improve combat readiness through reductions in overhead and support costs, candidates could be developed at a later date.

Question. Provide for the record a list of unfunded construction projects in order of priority totaling not more than \$100 million that can be put under contract during fiscal year 1981. Include with your list the project design status and the project form 1391.

Answer. The following projects represent about \$100 million in top priority Navy projects, not included in the current fiscal year 1982 request. These projects represent valid requirements, have design authority and can be placed under contract in fiscal year 1982:

P. No.—Location: Project title	Cost (thousands)	Design status (percent)	Estimate construct award
012—Navy Public Works Center, San Francisco: Wharf utilities, NSC Oakland.	\$5,050	100	November 1981.
636—Naval Station, Charleston: Steam distribution lines.....	16,000	90	January 1982.
007—Navy Submarine Training Center, Pearl Harbor: Applied instruction building.	2,700	35	November 1981.
995—Naval Air Station, Oceana: Land acquisition.....	16,960	100	Do.
253—Naval Air Station, Miramar: Engine maintenance shop addi- tion.	2,100	100	December 1981.
944—Fleet Training Center, Norfolk: Academic instruction building.	580	35	January 1982.
121—Mare Island Naval Shipyard, Vallejo: Pipe and boiler shop....	25,100	30	March 1982 ¹
498—Naval Air Station, Pensacola: Vehicular bridge.....	9,000	35	December 1981.
911—Naval Communication Area Master Station WESTPAC, Guam: Standby generator plant.	1,950	100	Do.
637—Naval Weapons Station, Charleston: Pay and personnel sup- port office.	240	35	Do.
010—Naval Station, Roosevelt Roads: Pay and personnel support office.	1,000	35	November 1981.
213—Pearl Harbor Naval Shipyard, Pearl Harbor: Service shops....	18,000	90	December 1981.
945—Charleston Naval Shipyard, Charleston: Crane and equipment maintenance shop.	13,600	35	February 1982.
200—Naval Station, Charleston: Electrical distribution lines.....	9,600	0	September 1982.
Total.....	112,880		

¹ There is an additional requirement for land acquisition at this activity. A \$10,000,000 project for land acquisition has been developed. DD form 1391's follow.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 9 APR 1981	
3. INSTALLATION AND LOCATION NAVY PUBLIC WORKS CENTER, SAN FRANCISCO, CALIFORNIA			4. PROJECT TITLE WHARF UTILITIES (NAVAL SUPPLY CENTER, OAKLAND)		
5. PROGRAM ELEMENT		6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST (\$000)	
7 20 37 N		821.12	P-012	5,050	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
WHARF UTILITIES.		LS	-	-	4,104
STEAM GENERATION & DISTRIBUTION.		LS	-	-	(1,435)
ELECTRICAL & COMMUNICATIONS.		LS	-	-	(1,191)
COMPRESSED AIR SYSTEM.		LS	-	-	(458)
SALT WATER DISTRIBUTION.		LS	-	-	(1,020)
SUPPORTING FACILITIES.		LS	-	-	241
PIER MODIFICATIONS.		LS	-	-	(77)
UTILITY BUILDING MODIFICATIONS.		LS	-	-	(164)
SUBTOTAL.		-	-	-	4,345
CONTINGENCY (5%).		-	-	-	435
TOTAL CONTRACT COST.		-	-	-	4,780
SUPERVISION, INSPECTION & OVERHEAD (5.5%).		-	-	-	263
TOTAL REQUEST.		-	-	-	5,043
TOTAL REQUEST (ROUNDED).		-	-	-	5,050
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS.		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Modify four berths and utility building; provide utility services including steam, electric, salt water, compressed air, telephone, and fire alarm.					
11. REQUIREMENT: VARIES.					
PROJECT: Provides "cold iron" utility services to berths used by two replenishment oilers (AOR) and one auxiliary repair ship (AR) at Naval Supply Center Oakland.					
REQUIREMENT: Adequate berthing requirements in the San Francisco Bay area are increasing. Specifically, it is planned to homeport the USS Hector (AR-7) at Naval Supply Center Oakland. Homeporting of the Hector will make services more readily available to the large number of ships located in the Oakland/Alameda area, eliminating approximately one-hour travel time between Oakland and Mare Island for parts and services, and providing better access to Service Group Staff located at Oakland. "Cold iron" facilities will allow ships to secure their utility-producing equipment and utilize more economical shore-produced utilities. Crews will achieve better liberty and leave policies.					
CURRENT SITUATION. Potable water is provided to all berths. A MUSE boiler is providing steam to two berths. One berth also has one electrical station consisting of three 480V outlets. All other utilities are being provided by operating ship's generation equipment.					
IMPACT IF NOT PROVIDED: Hindrance of better intermediate maintenance support in Bay Area because of repair ship having to operate on-board equipment to sustain itself.					
ADDITIONAL: An economic analysis has been prepared, demonstrating an estimated payback period of 3 years for a 25-year economic life.					

DD FORM 1391

1 DEC 76

PREVIOUS EDITIONS MAY BE USED INTERNALLY UNTIL EXHAUSTED

PAGE NO.

1. COMPONENT NAVY		2. DATE 9 APR 1981	
FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA			
3. INSTALLATION AND LOCATION NAVAL STATION, CHARLESTON, SOUTH CAROLINA		4. PROJECT TITLE STEAM DISTRIBUTION LINES	
5. PROGRAM ELEMENT 2 47 96 N	6. CATEGORY CODE 822.22	7. PROJECT NUMBER P-636	8. PROJECT COST (\$000) 16,000
9. COST ESTIMATES			
ITEM	U/M	QUANTITY	UNIT COST COST (\$000)
STEAM DISTRIBUTION LINES	LS	-	- 14,534
SUBTOTAL	-	-	- 14,534
CONTINGENCY (5%)	-	-	- 727
TOTAL CONTRACT COST.	-	-	- 15,261
SUPERVISION, INSPECTION & OVERHEAD (5.5%) . .	-	-	- 839
TOTAL REQUEST.	-	-	- 16,100
TOTAL REQUEST (ROUNDED).	-	-	- 16,000
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	-	-	(NON-ADD) (0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION			
Overhead insulated steam distribution line from Naval Shipyard main power plant to two Naval Station power plants; new steam lines on Piers L, S, T, U, and adjacent quay wall; steam lateral lines to six buildings; fresh water lines.			
11. REQUIREMENT: VARIES.			
PROJECT: Provides steam distribution lines connecting coal-fired steam plant in Naval Shipyard to Fleet berthing piers and selected buildings on Naval Station, Charleston; new steam lines on piers L, S, T, U, and Quay. REQUIREMENT: Combatants, submarines, and Fleet support ships berthed at the Naval Station waterfront require a reliable steam supply from outlets on piers. By connecting to this shore source of steam ships can shut down on board steam plants, thereby reducing wear-out and allowing for maintenance as well as reduced watch-standing by crew members. By discontinuing use of oil-fired steam plants, five million gallons of oil will be saved per year and a pay back period of six years will result. CURRENT SITUATION: Existing steam supply is inadequate due to use of expensive and scarce fuel oil, lack of steam production capacity and undersized steam lines. Number of ships homeported at NS Charleston will increase as new ships are commissioned in the early 1980's. The growth from 46 ships today to 52 ships by end 1985 will overtax the present oil-fired steam system. An indication of present shortcomings is the Navy's having to resort to use of eight temporary oil-fired boilers on the piers to keep pace with demand for steam.			

Continued on 1391c

DD FORM 1391
1 DEC 76PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO.

5-N 0102 LF 001 2810

1. COMPONENT NAVY	82 FY 19__ MILITARY CONSTRUCTION PROJECT DATA	2. DATE 9 APR 1981
3. INSTALLATION AND LOCATION NAVAL STATION, CHARLESTON, SOUTH CAROLINA		
4. PROJECT TITLE STEAM DISTRIBUTION LINES		5. PROJECT NUMBER P-636
11. (Continued) <u>IMPACT IF NOT PROVIDED:</u> Inability to meet demand of ships in port, meaning equipment on-board the ships will have to be operated, causing greater expense, earlier wearout, and need for extra crew members to remain on-board in port. Opportunity to save five million gallons per year of fuel oil, while realizing a six-year capital payback, will be lost.		

1. COMPONENT NAVY		FY 19 <u>82</u> MILITARY CONSTRUCTION PROJECT DATA		2. DATE 6 MAY 1981	
3. INSTALLATION AND LOCATION NAVAL SUBMARINE TRAINING CENTER PACIFIC, PEARL HARBOR, HAWAII			4. PROJECT TITLE APPLIED INSTRUCTION BUILDING		
5. PROGRAM ELEMENT B 57 96 N		6. CATEGORY CODE 171.20	7. PROJECT NUMBER P-007	8. PROJECT COST (\$000) 2,700	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
APPLIED INSTRUCTION BUILDING		SF	11,200	-	2,073
BUILDING		SF	11,200	139.46	(1,562)
BUILT-IN EQUIPMENT		LS	-	-	(511)
SUPPORTING FACILITIES.		-	-	-	373
ELECTRICAL UTILITIES		LS	-	-	(262)
MECHANICAL UTILITIES		LS	-	-	(7)
SITE IMPROVEMENT		LS	-	-	(78)
DEMOLITION		LS	-	-	(26)
SUBTOTAL		-	-	-	2,446
CONTINGENCY (5%)		-	-	-	122
TOTAL CONTRACT COST.		-	-	-	2,568
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	141
TOTAL REQUEST.		-	-	-	2,709
TOTAL REQUEST (ROUNDED).		-	-	-	2,700
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Two-story reinforced concrete frame building, masonry walls, concrete floors, and foundation, built-up roof, fire protection system, air conditioning, utilities; two 10'diameter 10' high training tanks; compressed air system; monorail hoist; space for classrooms, offices, storage, shops, lounge, locker rooms and showers. Demolition of two buildings. 11. REQUIREMENT: <u>54,500</u> SF. ADEQUATE: <u>29,782</u> SF. SUBSTANDARD: <u>4,100</u> SF. PROJECT: Provides consolidated diver training facility. REQUIREMENT: Adequate classrooms, applied instruction spaces, supporting offices and storage to provide submarine escape procedures, diver training, and requalification. CURRENT SITUATION: Training is currently conducted in old substandard facilities housed in four scattered buildings which lack sufficient space. Three of the buildings are temporary WWII structures that have exceeded their useful lives. The other building is the escape procedures trainer, which cannot accommodate any other purpose. IMPACT IF NOT PROVIDED: Continue to use substandard facilities; mission will not be adequately supported; training will be hampered. ADDITIONAL: An economic analysis has not been prepared as there is no alternative to meet this training requirement.					

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 25 MAR 1981	
3. INSTALLATION AND LOCATION NAVAL AIR STATION, OCEANA, VIRGINIA			4. PROJECT TITLE LAND ACQUISITION		
5. PROGRAM ELEMENT 2 46 96 N		6. CATEGORY CODE 911.10	7. PROJECT NUMBER P-995	8. PROJECT COST (\$000) 6,960	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
LAND ACQUISITION (NAS OCEANA & ALF FENTRESS)		I.S	-	-	6,283
SUBTOTAL		-	-	-	6,283
CONTINGENCY (5%)		-	-	-	314
TOTAL CONTRACT COST.		-	-	-	6,597
SUPERVISION, INSPECTION & OVERHEAD (5.5%) . .		-	-	-	363
TOTAL REQUEST.		-	-	-	6,960
TOTAL REQUEST (ROUNDED)		-	-	-	6,960
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION Acquisition of interest in 2,050 acres of land.					
11. REQUIREMENT: N/A. PROJECT: Acquires restrictive use easements or fee title acquisition of privately owned land severely impacted by Naval air operations to prevent development incompatible with activity mission. REQUIREMENT: Restrictive use easements or fee title to protect operational capability of NAS Oceana, ALF Fentress, and the health and welfare of the surrounding citizenry. Of primary concern is protection of the primary approach/departure routes from incompatible development. CURRENT SITUATION: There are approximately 130,000 annual air operations at NAS Oceana, and approximately 80,000 annual air operations at ALF Fentress. The operations occur for the most part over a 24-hour period, five days per week, with 80-85% of the operations at ALF Fentress occurring between dusk and dawn. The high noise level on the ground around the installation, particularly during evening hours, has given rise to over 200 formal citizen complaints annually. This number is constantly increasing with increased development. Citizens have formed groups in protest. Individuals have threatened physical harm to personnel on duty at these activities. Incompatible development has already occurred around NAS Oceana and ALF Fentress and continues at an alarming rate, notwithstanding Navy efforts to promote compatible development. The					

(Continued on DD 1391c)

1. COMPONENT NAVY	82 FY 19__ MILITARY CONSTRUCTION PROJECT DATA	2. DATE 25 MAR 1981
3. INSTALLATION AND LOCATION NAVAL AIR STATION, OCEANA, VIRGINIA		
4. PROJECT TITLE LAND ACQUISITION	5. PROJECT NUMBER P-995	
11. (Continued) <u>CURRENT SITUATION:</u> (Continued) selection of areas for acquisition in this project was based on the following factors: (a) degree of impact by operations, (b) percent utilization of runway affected, (c) present land zoning, (d) suitability of land for development, and (e) probability of imminent development. <u>IMPACT IF NOT PROVIDED:</u> Significant uncontrolled encroachment will occur, and potential for personal injury and damage to private property will increase. NAS Oceana and ALF Fentress are located in one of the fastest growing areas of the state of Virginia. This growth will continue to adversely affect operations at these installations if land use controls are not obtained. <u>ADDITIONAL:</u> An economic analysis has not been prepared as there is no alternative to meet the operational requirement.		

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 6 May 1981	
3. INSTALLATION AND LOCATION NAVAL AIR STATION, MIRAMAR, CALIFORNIA			4. PROJECT TITLE ENGINE MAINTENANCE SHOP ADDITION		
5. PROGRAM ELEMENT 2 46 96 N		6. CATEGORY CODE 211.35	7. PROJECT NUMBER P-253	8. PROJECT COST (\$000) 2,100	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
ENGINE MAINTENANCE SHOP ADDITION		SF	18,600	-	1,696
BUILDING ADDITION		SF	12,000	108.33	(1,300)
BUILDING ALTERATIONS		SF	6,600	3.48	(23)
BUILT-IN EQUIPMENT		LS	-	-	(373)
SUPPORTING FACILITIES		-	-	-	222
SPECIAL CONSTRUCTION FEATURES		LS	-	-	(74)
UTILITIES		LS	-	-	(17)
ROADS, PARKING, SIDEWALKS		LS	-	-	(110)
SITE IMPROVEMENT		LS	-	-	(21)
SUBTOTAL		-	-	-	1,918
CONTINGENCY (5%)		-	-	-	96
TOTAL CONTRACT COST		-	-	-	2,014
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	111
TOTAL REQUEST		-	-	-	2,125
TOTAL REQUEST (ROUNDED)		-	-	-	2,100
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CON. TRUCTION					
One-story steel frame building addition, concrete floors, concrete and insulated metal panel exterior walls, metal roof deck with rigid insulation and built-up roof, fire protection system, utility connections; alterations to engine maintenance building; paint spray booth, overhead traveling cranes, jib cranes, engine lifts.					
11. REQUIREMENT: 91,000 SF. ADEQUATE: 53,708 SF. SUBSTANDARD: 0 SF.					
PROJECT: Constructs addition to the engine maintenance shop and modernizes interior shop spaces.					
REQUIREMENT: An expanded, adequate, and modern shop is required to repair aircraft engines.					
CURRENT SITUATION: The existing shop was built in 1964, and during the last few years the engine workload has increased. F-14 aircraft have two engines vice the single engine F-8. The E-2 with its 2 turboprop engines have been added to the workload. Engines are repaired for aircraft aboard carriers at sea. The shop repairs the T-56, TF-30, J-52, J-57 and J-79 engines. This workload requires two and three shift operations.					
IMPACT IF NOT PROVIDED: Maintenance of engines will be delayed and quality control will suffer.					
ADDITIONAL: An economic analysis has not been prepared as there is no alternative to meet this operational requirement.					

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA			2. DATE 6 MAY 1981	
3. INSTALLATION AND LOCATION FLEET TRAINING CENTER, NORFOLK, VIRGINIA			4. PROJECT TITLE ACADEMIC INSTRUCTION BUILDING			
5. PROGRAM ELEMENT 8 57 96 N		6. CATEGORY CODE 171.10	7. PROJECT NUMBER P-944	8. PROJECT COST (\$000) 580		
9. COST ESTIMATES						
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)		
ACADEMIC INSTRUCTION BUILDING.	SF	7,850	-	441		
BUILDING ADDITION.	SF	7,850	53.76	(422)		
BUILT-IN EQUIPMENT.	LS	-	-	(19)		
SUPPORTING FACILITIES.	-	-	-	84		
SPECIAL CONSTRUCTION FEATURES.	LS	-	-	(50)		
UTILITIES.	LS	-	-	(3)		
ROADS, PARKING, SIDEWALKS.	LS	-	-	(9)		
SITE IMPROVEMENT.	LS	-	-	(22)		
SUBTOTAL.	-	-	-	525		
CONTINGENCY (5%).	-	-	-	26		
TOTAL CONTRACT COST.	-	-	-	551		
SUPERVISION, INSPECTION & OVERHEAD (5.5%).	-	-	-	30		
TOTAL REQUEST.	-	-	-	581		
TOTAL REQUEST (ROUNDED).	-	-	-	580		
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	-	-	(NON-ADD)	(0)		
10. DESCRIPTION OF PROPOSED CONSTRUCTION						
Single-level building addition, reinforced concrete frame, concrete floor, masonry walls, built-up roof, air conditioning, fire protection system, utilities; building alterations; solar assisted domestic hot water.						
11. REQUIREMENT: <u>66,630</u> SF. ADEQUATE: <u>0</u> SF. SUBSTANDARD: <u>41,070</u> SF.						
PROJECT: Provides training facilities.						
REQUIREMENT: Training for enlisted maintenance personnel.						
CURRENT SITUATION: Existing classrooms and laboratory spaces are fully utilized. Machinists mates operate and maintain various shipboard mechanical, air conditioning and refrigeration systems. Boiler technicians operate and maintain the boilers which drive the ship's propulsion system. Critical shortages presently exist in these ratings.						
IMPACT IF NOT PROVIDED: Ships will put to sea without sufficient numbers of trained personnel.						
ADDITIONAL: An economic analysis has not been prepared, because there is no feasible alternative to meet the requirement.						

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 9 APR 1981	
3. INSTALLATION AND LOCATION MARE ISLAND NAVAL SHIPYARD, VALLEJO, CALIFORNIA			4. PROJECT TITLE PIPE AND BOILER SHOP		
5. PROGRAM ELEMENT 7 20 28 N		6. CATEGORY CODE 213.55	7. PROJECT NUMBER P-121	8. PROJECT COST (\$000) 25,100	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
PIPE AND BOILER SHOP		SF	136,250	-	17,525
BUILDING		SF	136,250	102.24	(13,930)
BUILT-IN EQUIPMENT		LS	-	-	(3,595)
SUPPORTING FACILITIES		-	-	-	5,066
SPECIAL CONSTRUCTION FEATURES		LS	-	-	(1,913)
ELECTRICAL UTILITIES		LS	-	-	(918)
MECHANICAL UTILITIES		LS	-	-	(787)
PERMANENT & TEMPORARY RELOCATION OF SHOPS. RELOCATE TRAINING MOCK-UP		LS	-	-	(514)
SITE IMPROVEMENT & DEMOLITION.		LS	-	-	(257)
SUBTOTAL		-	-	-	22,591
CONTINGENCY (5%)		-	-	-	1,130
TOTAL CONTRACT COST.		-	-	-	23,721
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	1,305
TOTAL REQUEST.		-	-	-	25,026
TOTAL REQUEST (ROUNDED).		-	-	-	25,100
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(2,370)
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Steel frame, concrete tilt-up wall building; concrete roof, pile foundation, and floor; bridge cranes, jib cranes, monorails, stacker crane, picker crane, elevators; fire protection system; chemical cleaning tanks; storage racks; utilities; prefabricated metal building to house relocated rubber press, alterations to four buildings for temporary relocation of shops during construction; relocate training mock-up; demolition of six buildings.					
11. REQUIREMENT: 157,003 SF. ADEQUATE: 0 SF. SUBSTANDARD: 130,456 SF. PROJECT: Constructs new consolidated pipe and boiler shop. REQUIREMENT: Overhaul and repair of modern submarines and surface vessels requires a well-structured shop area which allows for the optimum arrangement of equipment for fabrication of piping systems, refrigeration and air conditioning work, manufacture of hangers, gaskets and hose assemblies, chemical cleaning, repair and manufacturing of boiler components, and fabrication of wave-guides. The facility housing these functions must also provide administrative space for shop supervisory personnel, shop planners and plan files, space for material control, storage and issue functions, and personnel support space.					
(Continued on DD 1391c)					

1. COMPONENT NAVY	82 FY 19__ MILITARY CONSTRUCTION PROJECT DATA	2. DATE 9 APR 1981
3. INSTALLATION AND LOCATION MARE ISLAND NAVAL SHIPYARD, VALLEJO, CALIFORNIA		
4. PROJECT TITLE PIPE AND BOILER SHOP	5. PROJECT NUMBER P-121	
11. (Continued) <u>CURRENT SITUATION:</u> Pipe and boiler shop functions are currently being performed in ten widely separated facilities dispersed along the Shipyard's 1.3 mile waterfront. The structures housing both pipe and boiler shop operations are, with only two exceptions, substandard and have basic floor plans which preclude the efficient structuring of shop operations. Chemical cleaning operations currently supporting the pipe and boiler shops are located in separate widely dispersed facilities which violate both Occupational Safety and Health Act (OSHA) regulations and Environmental Protection Agency (EPA) criteria because of inadequate ventilation and waste disposal equipment. The results of the aforementioned deficiencies are inefficient workflow, inadequate supervision, lost time because of travel, insufficient material control, and low morale, all of which result in excessive production cost. <u>IMPACT IF NOT PROVIDED:</u> Production costs for pipe and boiler shop operations will continue to be inordinately high; chemical cleaning operations supporting these shops will continue to violate OSHA and EPA standards; and maintenance of existing substandard buildings will continue to be a major shipyard overhead expense. <u>ADDITIONAL:</u> An economic analysis has been prepared. The payback period is 9.75 years over a 25-year economic life.		

R.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 8 MAY 1981	
3. INSTALLATION AND LOCATION NAVAL AIR STATION, PENSACOLA, FLORIDA			4. PROJECT TITLE VEHICULAR BRIDGE		
5. PROGRAM ELEMENT 8 57 96 N		6. CATEGORY CODE 851.20	7. PROJECT NUMBER P-498	8. PROJECT COST (\$000) 9,000	
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
VEHICULAR BRIDGE	LS	-	-	7,116	
STRUCTURE.	SY	22,467	313.39	(7,041)	
GATEHOUSES	SF	240	158.33	(38)	
LAND ACQUISITION	LS	-	-	(37)	
SUPPORTING FACILITIES.	-	-	-	1,008	
RELOCATE UTILITIES	LS	-	-	(402)	
PAVING	SY	10,000	14.30	(143)	
DEMOLITION	LS	-	-	(463)	
SUBTOTAL	-	-	-	8,124	
CONTINGENCY (5%)	-	-	-	406	
TOTAL CONTRACT COST.	-	-	-	8,530	
SUPERVISION, INSPECTION & OVERHEAD (5.5%) . .	-	-	-	469	
TOTAL REQUEST.	-	-	-	8,999	
TOTAL REQUEST (ROUNDED).	-	-	-	9,000	
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	-	-	(NON-ADD)	(0)	
10. DESCRIPTION OF PROPOSED CONSTRUCTION Six-lane vehicular bridge with grade separated intersection; 14' clear height at channel; two gatehouses; acquisition of interest in approximately 0.50 acres of land; relocation of utilities; demolition of existing bridge, three buildings, and paving.					
11. REQUIREMENT: N/A. PROJECT: Replaces vehicular bridge. REQUIREMENT: Adequate and safe main entrance to the Naval Air Station, and tenant activities. CURRENT SITUATION: The existing bridge was built in 1928, and widened in 1940. The structure has deteriorated and is inadequate. Because of the continuing deterioration and results of a recent inspection, the Florida Department of Transportation recommended a load limit of 12 tons for the existing bridge. The only other vehicular access to this station is over two-lane secondary roads, an additional 15 miles. IMPACT IF NOT PROVIDED: Access to many training, maintenance, and associated facilities will be severely restricted. Existing facility will continue to deteriorate causing the load limit to be further lowered. Possible additional charges by suppliers using the longer route to the station.					

DD FORM 1391

1 DEC 76

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 6 MAY 1981	
3. INSTALLATION AND LOCATION NAVAL COMMUNICATIONS AREA MASTER STATION WESTERN PACIFIC, GUAM, MARIANA ISLANDS			4. PROJECT TITLE STAND-BY GENERATOR PLANT		
5. PROGRAM ELEMENT 3 31 13 N		6. CATEGORY CODE 811.60	7. PROJECT NUMBER P-911		8. PROJECT COST (\$000) 1,950
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
STAND-BY GENERATOR PLANT		KW	2,500	-	1,774
GENERATOR.		KW	2,500	646.00	(1,615)
ELECTRIC POWER STATUS PANEL.		LS	-	-	(45)
FUEL SYSTEM UPGRADE.		LS	-	-	(100)
SITE IMPROVEMENT		LS	-	-	(14)
SUBTOTAL		-	-	-	1,774
CONTINGENCY (5%)		-	-	-	89
TOTAL CONTRACT COST.		-	-	-	1,863
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	102
TOTAL REQUEST.		-	-	-	1,965
TOTAL REQUEST (ROUNDED).		-	-	-	1,950
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Provide and install diesel driven generator, power status board, fuel tank with protection berm.					
11. REQUIREMENT: 7,500 KW. ADEQUATE: 5,000 KW. SUBSTANDARD: 0 KW. PROJECT: Provides additional stand-by generating unit, including power status panel. REQUIREMENT: An effective typhoon resistant 7,500 KW stand-by electric power plant at the Naval Radio Transmitter Facility to provide adequate stand-by power to serve all existing and planned operational loads during a power outage. CURRENT SITUATION: Emergency power is provided by two 2,500 KW stand-by generating units. Both units are required to serve the technical load of 3,600 KW. This condition does not allow for normal maintenance, repair or overhaul. IMPACT IF NOT PROVIDED: Without adequate and reliable stand-by power, vital communication operations will be curtailed during failure of island power. ADDITIONAL: An economic analysis has not been prepared as there is no alternative to meet this operational requirement.					

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 6 MAY 1981	
3. INSTALLATION AND LOCATION NAVAL & MARINE CORPS INSTALLATIONS, VARIOUS LOCATIONS INSIDE & OUTSIDE UNITED STATES					
4. PROJECT TITLE MINOR CONSTRUCTION PROGRAM (SPECIFIED LOCATIONS)				5. PROJECT NUMBER VARIOUS	
11. (Continued)					
<u>INSTALLATION/LOCATION</u>		<u>COST</u> <u>(\$000)</u>		<u>PROJECT DESCRIPTION</u>	
SOUTH CAROLINA NWS Charleston (P-637)(610.10)		240		Pay and Personnel Support Office. The Pay and Personnel Administrative Support Systems (PASS) functions are non-existent or located in various buildings. A requirement exists to provide more efficient and expeditious service to all personnel, and their families, requiring PASS related transactions. This project provides a new building to consolidate all PASS functions into a single facility.	

1. COMPONENT NAVY		FY 19 <u>82</u> MILITARY CONSTRUCTION PROJECT DATA			2. DATE 6 May 1981	
3. INSTALLATION AND LOCATION NAVAL STATION, ROOSEVELT ROADS, PUERTO RICO				4. PROJECT TITLE PAY AND PERSONNEL SUPPORT OFFICE		
5. PROGRAM ELEMENT 2 46 96 N		6. CATEGORY CODE 610.10	7. PROJECT NUMBER P-610		8. PROJECT COST (\$000) 1,000	
9. COST ESTIMATES						
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)		
PAY & PERSONNEL SUPPORT OFFICE	SF	16,259	-	642		
BUILDING CONVERSION & ALTERATIONS.	SF	16,259	34.20	(556)		
BUILT-IN EQUIPMENT	LS	-	-	(86)		
SUPPORTING FACILITIES.	-	-	-	234		
SPECIAL CONSTRUCTION FEATURES.	LS	-	-	(6)		
UTILITIES.	LS	-	-	(68)		
ROADS, PARKING, SIDEWALKS.	LS	-	-	(86)		
SITE IMPROVEMENT	LS	-	-	(40)		
DEMOLITION	LS	-	-	(34)		
SUBTOTAL	-	-	-	876		
CONTINGENCY (10%).	-	-	-	88		
TOTAL CONTRACT COST.	-	-	-	964		
SUPERVISION, INSPECTION & OVERHEAD (5.5%).	-	-	-	53		
TOTAL REQUEST.	-	-	-	1,017		
TOTAL REQUEST (ROUNDED).	-	-	-	1,000		
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	-	-	(NON-ADD)	(0)		
10. DESCRIPTION OF PROPOSED CONSTRUCTION						
Building conversion, alterations, and modernization including partitions, wall and floor finishes, sound attenuation, air conditioning, fire protection system, utilities upgrade; demolition of two buildings.						
11. REQUIREMENT: <u>81,575 SF.</u> ADEQUATE: <u>39,873 SF.</u> SUBSTANDARD: <u>53,857 SF.</u> PROJECT: Provides consolidated office facilities for the Pay and Personnel Administrative Support System (PASS). REQUIREMENT: Consolidate all PASS functions into a single facility. This will permit the station to provide more efficient and expeditious service to all personnel, and their families, requiring PASS related transactions. CURRENT SITUATION: Existing facilities are overcrowded and inefficient. IMPACT IF NOT PROVIDED: Full implementation of PASS cannot be achieved; inefficiency will continue; responsiveness to personnel and their families will not be realized. ADDITIONAL: An economic analysis has not been prepared as this project is not based on economic payback. Benefits will be better personnel management, higher morale, and increased retention rate.						

1. COMPONENT NAVY		82 FY 19__ MILITARY CONSTRUCTION PROJECT DATA		2. DATE 9 APR 1981	
3. INSTALLATION AND LOCATION PEARL HARBOR NAVAL SHIPYARD, PEARL HARBOR, HAWAII			4. PROJECT TITLE SERVICE SHOPS		
5. PROGRAM ELEMENT 7 20 28 N		6. CATEGORY CODE 213.61	7. PROJECT NUMBER P-213	8. PROJECT COST (\$000) 18,000	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
SERVICE SHOPS.		SF	155,473	-	12,788
SHOPS.		SF	137,473	81.74	(11,237)
STORAGE.		SF	18,000	40.39	(727)
BUILT-IN EQUIPMENT		LS	-	-	(824)
SUPPORTING FACILITIES		-	-	-	3,468
ELECTRICAL UTILITIES		LS	-	-	(559)
MECHANICAL UTILITIES		LS	-	-	(292)
SITE IMPROVEMENT		LS	-	-	(895)
RELOCATION.		LS	-	-	(1,411)
DEMOLITION		LS	-	-	(311)
SUBTOTAL		-	-	-	16,256
CONTINGENCY (5%)		-	-	-	813
TOTAL CONTRACT COST.		-	-	-	17,069
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	939
TOTAL REQUEST.		-	-	-	18,008
TOTAL REQUEST (ROUNDED).		-	-	-	18,000
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(1,040)
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Single-level tilt-up reinforced concrete building, concrete floors and foundation, built-up roof over concrete, fire protection system, air conditioning, bridge cranes, solar hot water system; relocation of two buildings; demolition of 14 buildings.					
11. REQUIREMENT: 264,500 SF. ADEQUATE: 37,882 SF. SUBSTANDARD: 146,480 SF.					
PROJECT: Provides consolidated shops facilities.					
REQUIREMENT: Consolidate riggers, laborers, and services shops into a single facility which will permit the activity capabilities and facilities to perform tasks efficiently and expeditiously in support of production workloads for the fleet.					
CURRENT SITUATION: Existing functions are dispersed and inconvenient, causing delay, poor quality control, and productivity. The fifteen 35 to 70-year-old structures are substandard and violate industrial health and pollution requirements.					
IMPACT IF NOT PROVIDED: Continued dispersed functions and inefficiencies will limit the shipyard's ability to accomplish its assigned mission. Under the present conditions, violations of industrial health safety regulations will continue. Personnel will be compelled to perform their tasks using outmoded methods and makeshift devices, resulting in production shutdowns and costly delays.					
ADDITIONAL: A primary economic analysis indicates a payback period of 6.9 years for a 25-year economic life.					

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA			2. DATE 23 FEB 1981	
3. INSTALLATION AND LOCATION CHARLESTON NAVAL SHIPYARD, CHARLESTON, SOUTH CAROLINA				4. PROJECT TITLE CRANE AND EQUIPMENT MAINTENANCE SHOP		
5. PROGRAM ELEMENT 7 20 28 N		6. CATEGORY CODE 218.20		7. PROJECT NUMBER P-945		8. PROJECT COST (\$000) 13,600
9. COST ESTIMATES						
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)		
CRANE & EQUIPMENT MAINTENANCE SHOP.	SF	97,895	-	8,822		
CRANE & CONST EQUIPMENT MAINTENANCE BLDG. . .	SF	64,179	92.97	(5,967)		
AUTOMOTIVE & MATERIALS HANDLING SHOP. . . .	SF	32,212	84.35	(2,717)		
REFUELER REPAIR FACILITY.	SF	640	95.31	(61)		
SERVICE STATION & CAR WASH.	SF	864	89.12	(77)		
SUPPORTING FACILITIES	-	-	-	3,509		
SPECIAL CONSTRUCTION FEATURES	LS	-	-	(1,030)		
UTILITIES	LS	-	-	(440)		
SITE IMPROVEMENT.	LS	-	-	(1,740)		
DEMOLITION.	LS	-	-	(299)		
SUBTOTAL.	-	-	-	12,331		
CONTINGENCY (5%).	-	-	-	617		
TOTAL CONTRACT COST	-	-	-	12,948		
SUPERVISION, INSPECTION & OVERHEAD (5.5%)..	-	-	-	712		
TOTAL REQUEST.	-	-	-	13,660		
TOTAL REQUEST (ROUNDED).	-	-	-	13,600		
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS	-	-	(NON-ADD)	(0)		
10. DESCRIPTION OF PROPOSED CONSTRUCTION						
Four steel frame buildings, exterior masonry walls with metal wall panels, interior masonry walls, concrete floors, built-up roofing on metal decking, automotive repair bays, high-bay work areas with bridge cranes, monorail hoists, underground storage tanks, dust-free shop areas; sprinkler system; air conditioning; utilities; demolition of two buildings, car wash, portal crane and railroad tracks on piling.						
11. REQUIREMENT: <u>97,895</u> SF. ADEQUATE: <u>0</u> SF. SUBSTANDARD: <u>75,029</u> SF.						
PROJECT: Maintenance and repair shops for weight and materials handling, construction, and automotive equipment. REQUIREMENT: Facility for periodic maintenance and repair of trucks, portal cranes, mobile cranes, locomotives, automotive equipment, fueling trucks, and other vehicles used throughout this industrial and Fleet operating complex. Necessary to locate facility near industrial waterfront area for ready access by rail-mounted cranes and locomotives concentrated around dry docks and fitting-out piers. Employee canteen space for shop employees also required.						
(Continued of Form 1391C)						

1. COMPONENT NAVY	FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA	2. DATE 23 FEB 1981
3. INSTALLATION AND LOCATION CHARLESTON NAVAL SHIPYARD, CHARLESTON, SOUTH CAROLINA		
4. PROJECT TITLE CRANE AND EQUIPMENT MAINTENANCE SHOP	5. PROJECT NUMBER P-945	
11. (Continued) <u>CURRENT SITUATION:</u> Cranes and heavy equipment now repaired in 38 year-old wood structure built to serve as a plate shop for ship building. Automotive vehicles are repaired in a similar building three-quarter miles distant. Area is congested, with no parking space for vehicles awaiting service. Neither hydraulic lifts nor component rebuild capability exists now. Shops for repair of motors and hydraulic systems are not available. Configuration is poor and leads to lost time and inefficiencies. Crane access is limited and electrical service is inadequate. Study shows existing shops are incapable of being economically modernized and should be demolished. <u>IMPACT IF NOT PROVIDED:</u> Ability to maintain mobile equipment used in major ship overhaul work will continue to be impaired because existing substandard facilities continue in use. Lost time in labor force due to separation of shops doing common work.		

1. COMPONENT NAVY		82 FY 19__ MILITARY CONSTRUCTION PROJECT DATA		2. DATE 22 APR 1981	
3. INSTALLATION AND LOCATION NAVAL STATION, CHARLESTON, SOUTH CAROLINA			4. PROJECT TITLE ELECTRICAL DISTRIBUTION LINES		
5. PROGRAM ELEMENT 2 47 96 N		6. CATEGORY CODE 812.30	7. PROJECT NUMBER P-200	8. PROJECT COST (\$000) 9,600	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
ELECTRICAL DISTRIBUTION LINES.		LS	-	-	8,640
SUBTOTAL		-	-	-	8,640
CONTINGENCY (5%)		-	-	-	432
TOTAL CONTRACT COST.		-	-	-	9,072
SUPERVISION, INSPECTION & OVERHEAD (5.5%)..		-	-	-	499
TOTAL REQUEST.		-	-	-	9,571
TOTAL REQUEST (ROUNDED).		-	-	-	9,600
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION Four piers will be modernized by increasing electric power circuit capacities to meet fleet requirements for cold iron berthing; provide for safe and efficient connection of ships to shore power.					
11. REQUIREMENT: <u>VARIES.</u> <u>PROJECT:</u> Modernizes electrical service at naval station Piers N, Q, T, and U. <u>REQUIREMENT:</u> Dependable electric power in adequate supply capacity is essential to the functioning of a naval station in support of operational forces of the fleet. Electrical power requirements of the DD 963 and FFG 7 are significantly greater than the classes of vessels they replaced. The additional electrical demand must be met. The requirement that additional power receptacles, and relocation of existing receptacles, is paramount in the naval station's mission of fleet support. <u>CURRENT SITUATION:</u> The electrical distribution system serving the naval station is undergoing a phased modernization to upgrade its capacity and reliability. The electrical services at Piers N, Q, T, and U are inadequate to meet current and projected requirements. Shore power receptacles are improperly located requiring long cable runs. Nesting cannot be accomplished at some berths because of insufficient numbers of receptacles.					
(Continued on DD 1391c)					

1. COMPONENT NAVY	82 FY 19___ MILITARY CONSTRUCTION PROJECT DATA	2. DATE
3. INSTALLATION AND LOCATION NAVAL STATION, CHARLESTON, SOUTH CAROLINA		
4. PROJECT TITLE ELECTRICAL DISTRIBUTION LINES		5. PROJECT NUMBER P-200
11. (Continued) <u>IMPACT IF NOT PROVIDED:</u> Fleet ships will not be provided with adequate shore power. Full utilization of pier berth will not be realized. The naval station will be unable to support new classes of surface combatants which have increased power demands. <u>ADDITIONAL:</u> No savings are expected upon completion of the project. No economic analysis has been performed. Ships will be provided with adequate shore electric power, thus obviating the need for ships to operate on-board generation systems.		

Question. Identify projects where the estimated project costs have changed since being submitted to the Congress, aside from any adjustments because of changes in the inflation and Davis-Bacon factors.

Answer. The following projects have had cost adjustments since the original Navy submit:

[Dollar amounts in thousands]

P. No.—Location: Project	Congressional request ¹	Current estimate	Difference
003—NORDA Bay St. Louis, Miss.: Oceanographic sciences laboratory...	\$5,900	\$6,500	\$600
308—NSB Bangor, Wash.: Off-Crew administration building.....	5,500	6,800	1,300
455—NAS North Island, Calif.: Applied instruction building.....	12,500	16,300	3,800
088—NPWC, Pensacola, Fla.: Sanitary sewer collection and treatment...	2,800	3,550	750
023—MCRD Parris Island, S.C.: Telephone exchange building.....	1,550	2,650	1,100
161—MCRD San Diego, Calif.: Police and fire station.....	1,300	1,870	570
142—MCAS Tustin, Calif.: Unaccompanied enlisted personnel housing...	7,600	9,200	1,600
165—MCAGCC, Twentynine Palms, Calif.: Organizational maintenance facility improvements.....	4,200	5,950	1,750
064—NAS Fallon: Maintenance hangar.....	8,300	12,000	3,700
Total.....			15,170

¹ As reflected in budget amendment of Mar. 10, 1981.

R.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 2 FEB 1981	
3. INSTALLATION AND LOCATION NAVAL OCEAN RESEARCH AND DEVELOPMENT ACTIVITY, BAY ST. LOUIS, MISSISSIPPI			4. PROJECT TITLE OCEANOGRAPHIC SCIENCES LABORATORY		
5. PROGRAM ELEMENT 6 58 51 N		6. CATEGORY CODE 310.37	7. PROJECT NUMBER P-003	8. PROJECT COST (\$000) <u>6,500</u> ~~6,500~~	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
OCEANOGRAPHIC SCIENCES LABORATORY.		SF	62,131	-	5,329
BUILDING		SF	62,131	76.11	(4,729)
BUILT-IN EQUIPMENT		LS	-	-	(600)
SUPPORTING FACILITIES.		-	-	-	900
ELECTRICAL UTILITIES		LS	-	-	(220)
MECHANICAL UTILITIES		LS	-	-	(150)
SITE IMPROVEMENT		LS	-	-	(530)
SUBTOTAL		-	-	-	6,229
CONTINGENCY (5%)		-	-	-	311
TOTAL CONTRACT COST.		-	-	-	6,540
SUPERVISION, INSPECTION & OVERHEAD (5.5%).		-	-	-	360
TOTAL REQUEST.		-	-	-	6,900
TOTAL REQUEST (ROUNDED).		-	-	-	~~6,900~~
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NCR-ADD)	(0)
					<u>6,500</u>
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
One-story laboratory building, reinforced concrete frame and floor, precast concrete wall panels, built-up roof, fire protection system, security alarm system, air conditioning, utilities.					
11. REQUIREMENT: 133,479 SF. ADEQUATE /1,348 SF. SUBSTANDARD: 0 SF.					
PROJECT: Provides an oceanographic research laboratory.					
REQUIREMENT: Dedicated research laboratory facilities to conduct in-house ocean environmental research and develop associated technology to support and improve the Navy's ability to operate in the marine environment					
CURRENT SITUATION: This activity is a tenant at the National Space Technology Laboratory and occupies assigned facilities under a 25 year lease agreement with the National Aeronautics and Space Administration. Space available for assignment to this activity only satisfied 43.5% of its requirement for laboratory space. Laboratories required for in-house research and technology development, either do not exist or have been located in office spaces until adequate facilities can be obtained. Increase in personnel already programmed cannot be accommodated without new laboratory facilities.					
IMPACT IF NOT PROVIDED: Failure to meet sponsor requirements and deadlines; negative impact on recruiting scientific and engineering staff; some research activities cannot be initiated; some in-house research will be conducted with low productivity because of inefficient facilities; additional personnel cannot be accommodated.					
ADDITIONAL: A primary economic analysis has not been prepared as there is no alternative to providing a new facility to meet the space requirement.					

1. COMPONENT NAVY		82 FY 19__ MILITARY CONSTRUCTION PROJECT DATA		2. DATE 2 FEB 1981	
3. INSTALLATION AND LOCATION NAVAL SUBMARINE BASE, BANGOR, WASHINGTON			4. PROJECT TITLE OFF-CREW ADMINISTRATION BUILDING		
5. PROGRAM ELEMENT 1 12 28 N		6. CATEGORY CODE 610.10		7. PROJECT NUMBER P-308	
8. PROJECT COST (\$000) <u>6,800</u> ~~7,100~~					
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
OFF-CREW ADMINISTRATION BUILDING.....		SF	58,000	-	5,666
BUILDING.....		SF	58,000	96.24	(5,582)
BUILT-IN EQUIPMENT.....		LS	-	-	(84)
SUPPORTING FACILITIES.....		-	-	-	700
ELECTRICAL UTILITIES.....		LS	-	-	(59)
MECHANICAL UTILITIES.....		LS	-	-	(58)
SITE IMPROVEMENT.....		LS	-	-	(583)
SUBTOTAL.....		-	-	-	6,366
CONTINGENCY (5%).....		-	-	-	318
TOTAL CONTRACT COST.....		-	-	-	6,684
SUPERVISION, INSPECTION & OVERHEAD (5.5%).....		-	-	-	368
TOTAL REQUEST.....		-	-	-	7,052
TOTAL REQUEST (ROUNDED).....		-	-	-	<u>7,100</u>
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS..		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION Two-story building, cast in place concrete frame, precast insulated concrete panels, insulating glass, built-up roof, elevator, utilities. 11. REQUIREMENT: 58,000 SF. ADEQUATE: 0 SF. SUBSTANDARD: 0 SF. PROJECT: Provides an administration building to house offices and classrooms for TRIDENT submarine crews in an off-crew status while the submarine is on patrol with the on-crew. REQUIREMENT: Adequate administrative space for submarine crews not at sea, and Subgroup NINE Training Staff. Each TRIDENT submarine has two complete crews: one is always manning the submarine, while the other crew remains ashore for refit, training, and other deployment preparations. CURRENT SITUATION: Off-crews will arrive at SUBASE Bangor starting in 1981. Existing facilities are now at or near capacity. A detailed assessment shows that by January 1982 space and personnel requirements will exceed availability. Thus, sufficient adequate space will not be available to accommodate the submarine off-crews and the supporting Subgroup NINE Training Staff. IMPACT IF NOT PROVIDED: No facilities to support off-crews of TRIDENT submarines will be available. ADDITIONAL: An economic analysis has not been prepared as there is no alternative to satisfy the deficiency.					

R.R.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 14 APR 1981	
3. INSTALLATION AND LOCATION NAVAL AIR STATION, NORTH ISLAND, CALIFORNIA			4. PROJECT TITLE APPLIED INSTRUCTION BUILDING		
5. PROGRAM ELEMENT 2 46 96 N		6. CATEGORY CODE 171.20		7. PROJECT NUMBER P-455	
				8. PROJECT COST (\$000) <u>16,300</u> ~~17,000~~	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
APPLIED INSTRUCTION BUILDING		SF	64,600	-	6,318
OPERATIONAL TRAINING BUILDING.		SF	52,000	107.30	(5,580)
MAINTENANCE TRAINING BUILDING ADDITION . .		SF	5,100	107.84	(550)
MAINTENANCE TRAINING BUILDING ALTERATIONS.		SF	7,500	9.07	(68)
BUILT-IN EQUIPMENT		LS	-	-	(120)
SUPPORTING FACILITIES.		-	-	-	8,325
ELECTRICAL UTILITIES		LS	-	-	(1,683)
MECHANICAL UTILITIES		LS	-	-	(6,089)
SITE IMPROVEMENT		LS	-	-	(553)
SUBTOTAL		-	-	-	14,643
CONTINGENCY (10%).		-	-	-	1,464
TOTAL CONTRACT COST.		-	-	-	16,107
SUPERVISION, INSPECTION & OVERHEAD (5.5%).		-	-	-	886
TOTAL REQUEST.		-	-	-	16,993
TOTAL REQUEST (ROUNDED).		-	-	-	~~17,000~~
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(84,520)
					<u>16,300</u>
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Steel frame building, special high-bay areas, reinforced concrete masonry walls, concrete spread footings and floors, built-up roofing on metal roof deck, raised flooring, security area, air conditioning and environmental control, fire protection, utilities. Reinforced concrete masonry bearing walls building addition, concrete floors and foundations, high-bay areas, air conditioning, utilities. Building alterations include partitions, insulation, air conditioning. Extensive extension of utility systems to site include water storage tank, pump station, sewage lift station, compressed air loop. 11. REQUIREMENT: 204,382 SF. ADEQUATE: 78,420 SF. SUBSTANDARD: <u>34,285</u> SF. PROJECT: Provides an aircraft systems training building. REQUIREMENT: Aircraft systems training for the Light Airborne Multipurpose System (LAMPS) Mark III Weapons System requires a new training facility to support the new helicopter squadrons and aircraft to be on board by 1983. This station will have a training squadron with 16 aircraft, and will be homeport to three squadrons with 12 aircraft each, for a station total of 52 aircraft. The first aircraft are scheduled to arrive in 1983. CURRENT SITUATION: There are no existing training buildings to support the additional base loading. IMPACT IF NOT PROVIDED: Facilities will not be available in calendar year 1983 to support the LAMPS Mark III program. ADDITIONAL: An economic analysis has not been prepared as there is no alternative to meet this military requirement.					

DD FORM 1 DEC 76 1391

S/N 0102 L F 001 3910

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO.

1. COMPONENT NAVY	82 FY 19__	MILITARY CONSTRUCTION PROJECT DATA	2. DATE 2 FEB 1981
3. INSTALLATION AND LOCATION NAVAL AND MARINE CORPS INSTALLATIONS, INSIDE UNITED STATES			
4. PROJECT TITLE WATER POLLUTION ABATEMENT FACILITIES		5. PROJECT NUMBER VARIOUS	
11. (Continued) ADDITIONAL: (Continued)			
<u>INSTALLATION/LOCATION</u>	<u>COST</u> <u>(\$000)</u>	<u>PROJECT DESCRIPTION</u>	
<u>INSIDE UNITED STATES</u>			
<u>FLORIDA</u> NPWC Pensacola (P-088) (831.10)	<u>3,550</u> ~~3,700~~	Sanitary Sewage Collection and Treatment. The sludge generated at the sewage treatment plant is currently classified as hazardous waste by the State of Florida. This hazardous material is being disposed of in an approved hazardous waste landfill near Sumter, Alabama. This practice is considerably more expensive than the previous practice of sludge disposal in the local landfill that had to be stopped. This project upgrades the existing sewage treatment plant by providing emergency power, sludge dewatering and storage system, chemical mix-tanks improvements, spray irrigation system, and other necessary modifications to reduce the quantity of sludge in accordance with the National Pollutant Discharge Elimination System (NPDES) permit and approved solid waste management practice.	

R.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 2 FEB 1981	
3. INSTALLATION AND LOCATION MARINE CORPS RECRUIT DEPOT, PARRIS ISLAND, SOUTH CAROLINA			4. PROJECT TITLE TELEPHONE EXCHANGE BUILDING		
5. PROGRAM ELEMENT 8 57 96 M		6. CATEGORY CODE 131.40	7. PROJECT NUMBER P-023	8. PROJECT COST (\$000) <u>2,650</u> ~~2,750~~	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
TELEPHONE EXCHANGE BUILDING.		SF	5,851	-	2,175
BUILDING		SF	5,851	89.73	(525)
BUILT-IN EQUIPMENT		LS	-	-	(1,650)
SUPPORTING FACILITIES		-	-	-	287
SPECIAL CONSTRUCTION FEATURES.		LS	-	-	(95)
ELECTRICAL UTILITIES		LS	-	-	(90)
MECHANICAL UTILITIES		LS	-	-	(52)
SITE IMPROVEMENT		LS	-	-	(50)
SUBTOTAL		-	-	-	2,462
CONINGENCY (5%)		-	-	-	123
TOTAL CONTRACT COST.		-	-	-	2,585
SUPERVISION, INSPECTION & OVERHEAD (5.5%).		-	-	-	142
TOTAL REQUEST.		-	-	-	2,727
TOTAL REQUEST (ROUNDED).		-	-	-	<u>2,750</u>
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
					<u>2,650</u>
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
One-story reinforced concrete frame building, concrete floor, built-up roof, masonry and brick walls, partial basement, electronic automatic digital exchange equipment, seismic construction and special foundations, extension of existing telephone cables, air conditioning, utilities.					
11. REQUIREMENT: <u>5,851</u> SF. ADEQUATE: <u>0</u> SF. SUBSTANDARD: <u>1,576</u> SF.					
PROJECT: Provides telephone exchange building.					
REQUIREMENT: Adequate facilities in which to consolidate all existing telephone functions, including switch gear equipment.					
CURRENT SITUATION: The overloaded 1,400-line capacity 1942 manufactured telephone system now serving the Depot was obtained from surplus for use until a modern new electronic system could be provided. The Depot's requirement is double that of the existing system, and also to expand its AUTOVON equipment to provide central service for the military installations in the area. However, enlargement or expansion is not possible in the present building.					
IMPACT IS NOT PROVIDED: Providing telephone service for the Depot will continue to be accomplished in widely separated, inadequate makeshift buildings that have exceeded their useful life.					
ADDITIONAL: An economic analysis has not been prepared as there is no alternative to satisfy the deficiency.					

R.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 2 FEB 1981	
3. INSTALLATION AND LOCATION MARINE CORPS RECRUIT DEPOT, SAN DIEGO, CALIFORNIA			4. PROJECT TITLE POLICE AND FIRE STATION		
5. PROGRAM ELEMENT B 47 11 M		6. CATEGORY CODE 730.20		7. PROJECT NUMBER P-161	
				8. PROJECT COST (\$000) <u>1,870</u> ~~1,970~~	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
POLICE & FIRE STATION.		SF	7,800	-	1,586
BUILDING		SF	7 800	102.69	(801)
BUILT-IN EQUIPMENT		LS	-	-	(761)
SOLAR SYSTEM		LS	-	-	(24)
SUPPORTING FACILITIES.		-	-	-	196
SPECIAL CONSTRUCTION FEATURES.		LS	-	-	(30)
ELECTRICAL UTILITIES		LS	-	-	(61)
MECHANICAL UTILITIES		LS	-	-	(44)
SITE IMPROVEMENT		LS	-	-	(61)
SUBTOTAL		-	-	-	1,782
CONTINGENCY (5%)		-	-	-	89
TOTAL CONTRACT COST.		-	-	-	1,871
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	103
TOTAL REQUEST.		-	-	-	1,974
TOTAL REQUEST (ROUNDED).		-	-	-	<u>1,970</u>
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
					<u>1,870</u>
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Two-story steel frame building, masonry walls, pile foundation, built-up roof on rigid insulation, concrete floors, fire protection system, solar assisted mechanical system, radio reporting system, utilities.					
11. REQUIREMENT: <u>7,800 SF.</u> ADEQUATE: <u>0 SF.</u> SUBSTANDARD: <u>23,502 SF.</u> PROJECT: Provides combined police and fire station facilities. REQUIREMENT: Adequate police and fire station facilities configured for optimum operational effectiveness. CURRENT SITUATION: The provost marshal functions are in a WW II temporary building which is in a state of obsolescence. The fire station is a converted pre-WW I building originally built as an artillery shed. IMPACT IF NOT PROVIDED: Poor locations and substandard facilities will continue to adversely impact on efficiency and effectiveness of these two functions. ADDITIONAL: An economic analysis has not been prepared as cost savings is not the basis for this project; efficiency and effectiveness are the requirements.					

1. COMPONENT NAVY		FY 19 <u>82</u> MILITARY CONSTRUCTION PROJECT DATA		2. DATE 2 FEB 1981	
3. INSTALLATION AND LOCATION MARINE CORPS AIR STATION, TUSTIN, CALIFORNIA			4. PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING		
5. PROGRAM ELEMENT 2 64 96 N		6. CATEGORY CODE 721.11		7. PROJECT NUMBER P-142	
				8. PROJECT COST (\$000) <u>9,200</u> ~~9,700~~	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
HOUSING.		SF	93,300	-	6,330
BUILDINGS.		SF	93,000	61.05	(5,696)
SOLAR SYSTEM.		LS	-	-	(634)
SUPPORTING FACILITIES.		-	-	-	2,411
SPECIAL CONSTRUCTION FEATURES.		LS	-	-	(862)
ELECTRICAL UTILITIES.		LS	-	-	(139)
MECHANICAL UTILITIES.		LS	-	-	(389)
ROADS, PARKING, SIDEWALKS.		LS	-	-	(447)
SITE IMPROVEMENT.		LS	-	-	(574)
SUBTOTAL.		-	-	-	8,741
CONTINGENCY (5%).		-	-	-	437
TOTAL CONTRACT COST.		-	-	-	9,178
SUPERVISION, INSPECTION & OVERHEAD (5.5%).		-	-	-	505
TOTAL REQUEST.		-	-	-	9,683
TOTAL REQUEST (ROUNDED).		-	-	-	<u>9,700</u>
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
					<u>9,200</u>
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Two three-story precast reinforced concrete and masonry buildings, built-up roof, concrete floors, solar domestic hot water, utility connections; 192 bedrooms with private bathrooms, lounge, storage, vending, laundry, mechanical equipment. Grade mix: 378 E1-E4, 40 E5, 46 E6-E9. Total: 464.					
11. REQUIREMENT: <u>2,152</u> PN. ADEQUATE: <u>584</u> PN. SUBSTANDARD: <u>976</u> PN. PROJECT: Provides adequate billeting for unaccompanied enlisted personnel. REQUIREMENT: Adequate housing for 464 enlisted personnel in grades E1-E9. There is a deficiency of 1,568 adequate billeting spaces at this station. CURRENT SITUATION: Unaccompanied enlisted Marines are billeted in inadequate open-bay dormitory housing, with communal heads and showers. IMPACT IF NOT PROVIDED: Continued occupancy of substandard housing, which fails to meet minimum living conditions, with the resultant adverse effect on morale and retention. ADDITIONAL: An economic analysis indicates that new construction is less costly than modernization on a life-cycle basis.					

DD FORM 1391
1 DEC 76

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

PAGE NO. 73

R.

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA			2. DATE 2 FEB 1981	
3. INSTALLATION AND LOCATION MARINE CORPS AIR GROUND COMBAT CENTER, TWENTYNINE PALMS, CALIFORNIA				4. PROJECT TITLE ORGANIZATIONAL MAINTENANCE FACILITIES IMPROVEMENT		
5. PROGRAM ELEMENT 2 64 96 M		6. CATEGORY CODE 215.30	7. PROJECT NUMBER P-165		8. PROJECT COST (\$000) 5,950 ~~6,200~~	
B. COST ESTIMATES						
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)	
ORGANIZATIONAL MAINTENANCE FAC IMPROVEMENT		LS	-	-	3,757	
BUILDINGS & ADDITIONS.		SF	25,100	82.59	(2,073)	
BUILDINGS MODERNIZATION.		SF	23,740	21.32	(504)	
MAINTENANCE PADS & SUNSHADES		SF	31,500	19.56	(616)	
BUILT-IN EQUIPMENT		LS	-	-	(564)	
SUPPORTING FACILITIES.		-	-	-	1,828	
ELECTRICAL UTILITIES		LS	-	-	(183)	
MECHANICAL UTILITIES		LS	-	-	(113)	
PAVING		LS	-	-	(1,215)	
SITE IMPROVEMENT		LS	-	-	(317)	
SUBTOTAL		-	-	-	5,585	
CONTINGENCY (10%).		-	-	-	279	
TOTAL CONTRACT COST.		-	-	-	5,864	
SUPERVISION, INSPECTION & OVERHEAD (5.5%).		-	-	-	323	
TOTAL REQUEST.		-	-	-	6,187	
TOTAL REQUEST (ROUNDED).		-	-	-	~~6,200~~	
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)	
					5,950	
10. DESCRIPTION OF PROPOSED CONSTRUCTION						
Upgrade organizational maintenance facilities with new buildings, wash stands, grease racks, maintenance pads with sunshades; building additions and modernizations; storage facilities fire protection system, fencing, security lighting, utilities.						
11. REQUIREMENT: N/A.						
PROJECT: Provides maintenance shop facilities.						
REQUIREMENT: Adequate shop spaces to carry out maintenance program for assigned artillery pieces and combat vehicles.						
CURRENT SITUATION: The existing organization maintenance facilities are small and substandard. The existing facilities are operated with bays too small for tracked vehicles, without vehicle exhaust system, and without means to change large engines. The lack of adequate facilities necessitates that much of the repair and maintenance be performed outdoors with vehicles exposed to extreme temperatures and sand. No security lighting or fencing exists in most of the gun park area to deter vandalism.						
IMPACT IF NOT PROVIDED: Continued maintenance in facilities too small for the self-propelled guns; maintenance being performed outdoors in the sand and desert heat.						
ADDITIONAL: An economic analysis has not been prepared as there is no alternative to meet the requirement.						

R.

1. COMPONENT NAVY		FY 19 <u>82</u> MILITARY CONSTRUCTION PROJECT DATA			2. DATE 17 FEB 81	
3. INSTALLATION AND LOCATION NAVAL AIR STATION, FALLON, NEVADA				4. PROJECT TITLE MAINTENANCE HANGAR		
5. PROGRAM ELEMENT 2 46 96 N		6. CATEGORY CODE 211.05		7. PROJECT NUMBER P-064		8. PROJECT COST (\$000) 12,000 ~~12,500~~
B. COST ESTIMATES						
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)	
MAINTENANCE HANGAR		SF	75,000	-	9,808	
HANGAR BUILDING.		SF	68,900	106.85	(7,362)	
UTILITY BUILDING		SF	4,000	139.00	(556)	
FIRE PUMP HOUSE.		SF	2,100	335.24	(704)	
TAXIWAY, SHOULDER, ACCESS APRON.		SY	25,150	43.02	(1,082)	
SOLAR SYSTEM		LS	-	-	(104)	
SUPPORTING FACILITIES.		-	-	-	1,476	
SPECIAL CONSTRUCTION FEATURES.		LS	-	-	(219)	
UTILITIES.		LS	-	-	(1,118)	
PAVING & SITE IMPROVEMENT.		LS	-	-	(139)	
SUBTOTAL		-	-	-	11,284	
CONTINGENCY (5%)		-	-	-	564	
TOTAL CONTRACT COST.		-	-	-	11,848	
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	652	
TOTAL REQUEST.		-	-	-	12,500	
TOTAL REQUEST (ROUNDED).		-	-	-	~~12,500~~	
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)	
12,000						
10. DESCRIPTION OF PROPOSED CONSTRUCTION						
Hangar: Two-level steel frame building, masonry and metal panel walls, concrete floors, built-up roof over rigid insulation on metal deck; utility & fire pump house buildings: one level, masonry walls, concrete floors, built-up roof over rigid insulation on metal deck; access taxiway with lighting, access apron; fire protection system; air conditioning; utilities.						
11. REQUIREMENT: <u>155,336</u> SF. ADEQUATE: <u>49,775</u> SF. SUBSTANDARD: <u>38,917</u> SF. PROJECT: Provides an aircraft maintenance hangar. REQUIREMENT: Adequate aircraft maintenance facilities to support as many as 110 deployed aircraft in addition to station aircraft. CURRENT SITUATION: Existing aircraft maintenance facilities consist of one adequate permanent hangar and one substandard wood frame hangar built in 1943. These hangars only provide 32% of the required maintenance area and cannot support the numbers of aircraft which deploy here, from both the Atlantic and Pacific fleets and from the Marine Corps, for air-to-ground gunnery, bombing and rocketry practice on the station's practice ranges. IMPACT IF NOT PROVIDED: The present adverse working environment will continue to contribute to marginal maintenance efforts by station and squadron personnel, and will reduce training efficiency. ADDITIONAL: An economic analysis has not been prepared as there is no alternative to meet this operational and training requirement.						

CONSTRUCTION BACKLOG

Question. What is the Navy/Marine Corps construction backlog?

Answer. The Navy and Marine Corps construction backlog is approximately \$12.4 billion.

Question. Admiral Zobel, how do you handle the allocation of construction funds between the Navy and the Marine Corps?

Answer. The Marine Corps is no longer allocated a percentage portion of the total Navy military construction budget request. The Marine Corps determines its construction requirements and programs funds to satisfy that requirement from resources available to the Marine Corps. After the program is established, the Marine Corps requirement is joined with the Navy requirement for the total Department of the Navy budget request.

Question. General Petersen, are you satisfied that the Marine Corps is being allocated a proper share of the available military construction funds?

Answer. Yes, sir, the Marine Corps is being allocated a proper share of available construction funds. Although we can always use more funds for our military construction program, we do receive an equitable share. Now, of course, because of a Memorandum of Agreement between the Commandant of the Marine Corps and the Chief of Naval Operations we do not receive a percentage portion of the Navy program. Marine Corps construction requirements compete against other Marine Corps requirements for the limited resources available—we determine the size of our program and programming decisions in the Navy do not affect it. We are confident that this new procedure will be more responsive to our needs, in fact, this year we have an approximate thirty percent growth over the previous program.

Question. Your program is well over 1 billion this year. Is that enough? What level should your military construction program be to adequately address your backlog?

Answer. The Navy request for authorization and appropriation in fiscal year 1982 is approximately \$1.2 and \$1.5 billion, respectively. This request is sufficient to meet the Navy's immediate facility requirements and enables the Navy to "hold its own" with regard to the backlog. In fact, if we could take a picture and freeze today's backlog, it could probably be eliminated in about 10 years, at today's funding level. However, the backlog is dynamic and changes year to year. As new weapons systems are developed and, as our present facilities age, the backlog will change to reflect the construction necessary to provide for the new weapons systems and to replace and modernize existing facilities. In a sense, the backlog is never eliminated. We must, however, manage the backlog to insure that it doesn't get out of hand and impact on our ability to provide fleet support. A funding level through the outyears, approximating this year's request adjusted for inflation, will enable the Navy to hold its own with regard to the backlog.

QUESTIONS SUBMITTED BY SENATOR JOHN W. WARNER

NAS OCEANA

Question. Please provide for the record an assessment of the need for additional aircraft parking space for the support of fleet and training squadrons assigned to Hangar 122 at the Naval Air Station, Oceana, Virginia.

It is my understanding that current aircraft parking is not in conformance with air-field safety criteria and that at present, aircraft, are being parked dangerously close to one another and also on taxi-ways, access aprons and maintenance aprons.

Is it fair to say that this aircraft parking shortage is causing a safety hazard and reducing the operational efficiency for maintenance and impacts on the overall readiness posture of NAS, Oceana.

Is the design far enough along that this project could be put under contract in fiscal year 1982?

Answer. The requirement for an Aircraft Parking Apron at NAS Oceana, designated P-227, has been validated by the Navy's Shore Facilities Planning System. The estimated cost of the project in fiscal year 1982 dollars is \$3,200,000.

While there is an immediate need for this apron to support the A-6 aircraft maintained in Hangar No. 122 at NAS Oceana, the Navy does not anticipate

programing it in the annual military construction request until fiscal year 1985. This is due to budget limitations and the requirement for other urgently needed military construction projects in upcoming programs.

The present parking apron and hangar can only accommodate 60 percent of the A-6 aircraft assigned to this station if they are properly positioned allowing clearances for loading, unloading and servicing. However, the remaining 32 aircraft must be parked somewhere, resulting in crowding and the use of taxiways and access aprons. This requires extreme caution when moving aircraft into or out of position. The parking shortage places restrictions on ground crews and squadron maintenance personnel and poses safety hazards to both aircraft and crews.

The design is now approximately 90 percent complete. The construction contract for the project could be awarded in the second quarter of fiscal year 1982.

Question. Please provide for the record an assessment of the need for and costs of a centralized underground aircraft utility system for providing utility service for A-6 aircraft at NAS, Oceana.

It is my understanding that such a project would have an expected pay-back of less than six years.

Is the design far enough along that this project could be put under contract in fiscal year 1982?

Answer. There is a requirement for Aircraft Fixed Point Utilities Systems at NAS Oceana, designated P-229, which is supported by the Navy's Shore Facilities Planning System. The estimated cost for the project in fiscal year 1982 dollars is \$5,900,000.

While there is an immediate need for this Utilities System project, which provides such services as electrical power and starting air, the Navy, because of budget constraints and the requirement for other urgent projects, does not anticipate programming this project until fiscal year 1985. A utilities system does exist today on the A-6 apron and it provides some of the required services. However, because it is placed on the apron instead of being installed in covered trenches, the system is unreliable and subject to damage caused by aircraft and vehicles rolling over the utility lines. Depending on the Fixed Point Utilities System that is selected for installation, an economic payback of under 10 years is possible. While economic savings are an important aspect of the project, it is of primary concern to the squadrons that reliable utilities services are available to operate and maintain the aircraft. An "in-the-apron" system such as this project is the best means of providing the required ramp services.

The design of this project has not yet begun. However, the project could be designed in time to permit construction contract award late in the fourth quarter of fiscal year 1982.

Question. Please provide for the record an assessment of the need for and costs of providing a facility for the correction and prevention of corrosion of naval aircraft at NAS, Oceana.

It is my understanding that at present the corrosion control program is being carried out in hangar bays and other areas, thus causing a reduction in efficiency and also a safety and health hazard.

Is the design far enough along that this project could be put under contract in fiscal year 1982?

Answer. The need for an Aircraft Corrosion Control Facility at NAS Oceana, designated P-576, has been validated by the Navy's Shore Facilities Planning System. The estimated cost of the project in fiscal year 1982 dollars is \$6,000,000.

While there is an immediate need for the facility to support units already on board at Oceana, Navy does not anticipate programing it in the annual military construction request until fiscal year 1985. This delay is due to budget restraints and the need to program other urgent projects. Lacking a proper facility in which to apply protective coatings and paints, squadrons now perform only a limited amount of such work using hangar maintenance bays not designed as paint facilities. Special precautions are taken, with resulting delays, to protect personnel from toxic paint fumes.

Naval aircraft operate in a highly corrosive atmosphere resulting in rapid deterioration of expensive components. To fight corrosion successfully, it must be detected in its incipient stages and the extent of damaged determined by non-destructive means. This project would permit a crew of specially trained squadron level personnel to detect damage and perform corrective measures in a properly sized and ventilated facility. The new facility will be designed to allow

the use of special paints and eliminate pollution and health hazards. As the aircraft age (particularly the A-6 aircraft) and periods between visits to the Naval Air Rework Facility (NARF) for complete overhaul become extended, the need for proper station level corrosion control becomes more important. Neglecting corrosion control at the operational level results in decreased operational capability, long out-of-service periods, and excessive repair costs, all of which severely affect the readiness of aircraft for deployment.

The design is now approximately 90 percent complete. The construction contract for the project could be awarded in the third quarter of fiscal year 1982.

Question. It is my understanding that the Navy is currently engaged in a multi-phased program to protect NAS Oceana, Virginia and Auxiliary Land Field Fentress from encroachment and incompatible development.

No funds for this program are included in the fiscal year 1982 budget for this project, and yet it is a very important program and one which is fairly time sensitive.

Would you briefly describe the Air Installation Compatibility Use Zone program for NAS Oceana and ALF Fentress, including its importance, what has been done to date and what still needs to be done?

Would not a delay in funding this program give impetus to further incompatible development?

What funding level would be required to complete this program in fiscal year 1982?

Answer. The Navy has under active development at this time a project for further acquisition of interest in land surrounding Naval Air Station Oceana and the Auxiliary Landing Field nearby at Fentress. This project, designated P-995 and estimated to cost \$10,000,000 will be the fourth in a series of projects for land acquisition around Oceana by which the Navy is implementing its Air Installation Compatible Use Zone (AICUZ) plan. The necessary Land Planning Report could be completed in time to allow the land acquisition to proceed in fiscal year 1982.

The AICUZ plan is designed to forestall incompatible development in the vicinity of the Navy airfields. It is being implemented through joint efforts of the Navy, in acquiring interests in land, and the City of Virginia Beach, through cooperation in controlling land development.

Navy received funding totalling \$21.6 million for land acquisition in fiscal year 1979, 1980 and 1981 military construction. To complete the acquisition plan, further funding of \$21 million will be needed, with project P-995 being the next acquisition in the sequence.

Project P-995 is a high priority project which Navy is considering for programming at the earliest time possible, consistent with other urgent construction priorities and budget limitations. It will probably not be proposed for funding until fiscal year 1984 at the earliest, however. The cost of the interests in the land needed by the Navy is estimated to increase at a rate of 15 percent per year. This is attributable to the continued rapid growth and development occurring in the Virginia Beach area.

Question. Do you have any supplemental information to provide on any projects?

Answer. For the unaccompanied enlisted personnel housing facility at Naval Air Facility Sigonella, Sicily, there is a need to include at no increase in authorized amount, the replacement in kind of a small building that must be demolished to clear the site for the new unaccompanied enlisted personnel housing. The existing building, No. 563, is approximately 1,650 square feet in size, of semi-permanent construction, built in 1976, and houses classrooms and administrative space for off-duty educational programs and career counselors. The building will be replaced on an available site at the NAF I location at a cost of approximately \$100,000. A revised DD Form 1391 to reflect the change in this project follows:

1. COMPONENT NAVY		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE 8 MAY 1981	
3. INSTALLATION AND LOCATION NAVAL AIR FACILITY, SIGONELLA, ITALY			4. PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING		
5. PROGRAM ELEMENT 2 46 96 N		6. CATEGORY CODE 721.11	7. PROJECT NUMBER P-724	8. PROJECT COST (\$000) ~~4,500~~ 4,700	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
HOUSING.		SF	44,385	-	3,719
BUILDING		SF	44,385	74.96	(3,327)
BUILT-IN EQUIPMENT		LS	-	-	(280)
SOLAR SYSTEM		LS	-	-	(112)
SUPPORTING FACILITIES.		-	-	-	698
SPECIAL CONSTRUCTION FEATURES.		LS	-	-	(413)
UTILITIES.		LS	-	-	(121)
ROADS, PARKING, SIDEWALKS.		SY	2,000	45.00	(90)
SITE IMPROVEMENT		LS	-	-	(62)
DEMOLITION		LS	-	-	(12)
SUBTOTAL		-	-	-	4,417
CONTINGENCY (5%)		-	-	-	221
TOTAL CONTRACT COST.		-	-	-	4,638
SUPERVISION, INSPECTION & OVERHEAD (5.5%)		-	-	-	255
TOTAL REQUEST.		-	-	-	4,893
TOTAL REQUEST (ROUNDED).		-	-	-	~~4,500~~ 4,700
EQUIPMENT PROVIDED FROM OTHER APPROPRIATIONS		-	-	(NON-ADD)	(0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Two reinforced concrete frame buildings, masonry walls, structural clay tile floors and roof, exterior and interior plaster finish, insulation; 96 bedrooms with private bathrooms, lounges, laundry, storage, mechanical equipment; solar energy for hot water and heating, air conditioning, fire protection system, utility connections; demolition of two buildings; replacement of one building on new site NAF I. Grade mix: 288 E1-E4. Total: 288. 11. REQUIREMENT: 1,847 PN. ADEQUATE: 1,170 PN. SUBSTANDARD: 0 PN. PROJECT: Provides adequate billeting for 288 unaccompanied enlisted personnel. REQUIREMENT: Adequate housing for unaccompanied enlisted personnel. CURRENT SITUATION: A deficiency of 677 adequate billeting spaces causes overcrowding with some personnel having only about half the space needed for adequate billeting. Many personnel must be housed in commercial hotel facilities 20 miles away because of insufficient adequate berthing on station or in the immediate geographic area. Small 1,650-square foot classroom building must be replaced at NAF I. IMPACT IF NOT PROVIDED: Degrade safety productivity, morale, and health of personnel and Navy's career retention efforts. ADDITIONAL: An economic analysis has not been prepared as there is no alternate solution for providing adequate housing. Prefinancing under NATO procedures is not planned for this project, as it is not within an established NATO infrastructure category for common funding nor is it expected to become eligible.					

[Brief recess.]

Senator THURMOND. We will now hear from the Air Force.

General Wright, I believe you are the next witness. We are glad to have you with us. You may proceed.

STATEMENT OF BRIG. GEN. CLIFTON D. WRIGHT, DEPUTY DIRECTOR OF ENGINEERING AND SERVICES; ACCOMPANIED BY BRIG. GEN. JAMES P. MCCARTHY, SPECIAL ASSISTANT FOR MX MATTERS; HOWARD TEICHER, OSD/INTERNATIONAL SECURITY AFFAIRS; AND RALPH WANLASS, DIRECTOR OF ENGINEERING

General WRIGHT. Thank you Mr. Chairman.

Senator THURMOND. Now, you have a long statement here. If you have no objection we will put the entire statement in the record and you just highlight anything you want to emphasize but try not to duplicate any more than you can in your statement.

[The prepared statement of General Wright follows:]

PREPARED STATEMENT OF BRIG. GEN. CLIFTON D. WRIGHT, DEPUTY DIRECTOR OF ENGINEERING AND SERVICES, U.S. AIR FORCE

Mr. Chairman, it is a pleasure to appear before this committee to present our fiscal year 1982 program. I brought with me some of the more knowledgeable people on the Air staff to address specific projects and programs that are in the authorization request for fiscal year 1982. I hope we can be totally responsive to all questions from the committee.

This year's request consists of projects throughout the United States and overseas totaling nearly \$1.7 billion. It builds on programs we have presented in the past and it also includes the start of new programs, some of which will continue in the future.

I would briefly like to highlight a few of the larger and more important programs and projects at this time.

SPACE TRANSPORTATION SYSTEM

This is the fourth year we are requesting funds for the space transportation systems (STS) program. Our request this year for \$9.3 million provides support facilities at Goddard Space Center, Md. and Vandenberg AFB, CA. These projects are essential to the launch of DOD payloads from Cape Canaveral and are geared to achieve an initial operational capability (IOC) of August 1984 at Vandenberg. (The fiscal year 1982 program should essentially complete construction required to provide an initial capability of about ten launches a year. A possible exception is a thermal protection system facility to manufacture, process, and store orbiter thermal protection tiles. The need for this function is now being evaluated and if required may be submitted next year. In future years, we will request facilities to implement thrust augmentation and increase the launch rate at Vandenberg to about 20 a year. The total Air Force construction cost for Space Shuttle is estimated to be about \$460 million.) I have three slides showing the major facilities we are requesting in the 1982 program at Vandenberg. The first is for work to dredge a basin and construct a dock and tow route. This is required to receive the large external tank that comes by barge from the manufacturer in Louisiana. The tank is then towed to the launch facility where it is mated with the orbiter. The second slide shows a cutaway of the paracnute refurbishment shop. This is where the chutes that bring down the reusable solid rocket boosters are taken and made ready for another launch. The third slide shows the building we will modify for flight crew quarters and life support equipment storage.

MX

The next subject is MX. This is the third year we have come before this committee for MX construction funding. In fiscal year 1980 the Congress provided \$57 million to construct test facilities at Vandenberg AFB, CA. and \$5.4

million was approved for alteration of engine test cells at Arnold Engineering Development Center, Tenn. to altitude test the second, third and fourth stage motors of the missile. Construction is well underway on both items. In fiscal year 1981 an additional \$17.1 million was authorized for further test facilities at Vandenberg.

This year we are requesting \$366 million for MX support facilities. This submission is keyed to a basing decision this summer. Generally speaking the program includes site development work, mobilization facilities, operational base test site construction, real estate, the support complex at Norton and funds for the purchase of selected long lead time materials. We ask for authorization and funding this year fully realizing that two critical actions affecting the basing mode are yet to be completed. The first is the ongoing review by a special panel that will report to Secretary Weinberger in June of this year and the second is completion of the final environmental impact statement later this summer.

Timely execution of the fiscal year 1982 MCP as currently conceived is crucial to meeting the system IOC of July 1986 and to stay on schedule we must get these projects designed and under consideration during fiscal year 1982. We are, in fact, already behind schedule on some of this work.

(To keep from falling further behind, yet comply with the law, we have had to initiate base comprehensive planning and detailed facility design at four alternative sites (Coyote Spring, Beryl, Milford, and Clovis). Design of buildings and structures (vertical facilities) is underway and, as directed by the Congress last year, will remain non-site specific until all terms, conditions and requirements of the National Environmental Policy Act are met. Design of roads and utility systems (horizontal facilities) will soon be getting underway at each of the candidate locations. We are very much aware that designing more than one location puts some planning and design money at risk but have included provisions in the contracts that permit orderly termination of all but one when the final decision is made.) These slides present a summary of the type facilities we are requesting in the fiscal year 1982 program. (Pause for briefing.)

Mr. Chairman, our construction request for MX facilities will be phased over the next several years. The schedule presents us with a real challenge for the 1980's but we intend to meet this challenge by undertaking an aggressive and well managed design and construction program. With the continuing support of this committee, we will meet our goals and see this program through to a successful completion.

AIR LAUNCHED CRUISE MISSILE

This year \$102,208,000 is included for projects at four locations to accommodate the air launched cruise missile system. Most of the work is for data automation, and maintenance and storage facilities—some is new construction and some is alteration of existing facilities. The locations are Ellsworth AFB, South Dakota, (\$27.4 million), Blytheville AFB, Arkansas (\$19.9 million), Carswell AFB, Texas (\$32.6 million) and Fairchild AFB, Washington (\$22.2 million).

READINESS OVERSEAS

Increasing the readiness of our combat forces also continues to be one of our highest priority requirements. Our basing structure is a vital part of our readiness equation because we, unlike the other services, will fight from our fixed main operating and collocated operating overseas bases. Thus, to optimize our combat capability, we must have adequate runways, hardened shelters, hardened and chemically protected operational and support facilities, and protected storage for war reserve materials. In addition to their direct role in combat sortie generation, our facilities play an important part in sustaining the morale of our people in peacetime. Many of our people, especially the young enlisted members, spend 24 hours a day on our overseas bases. Providing them with a decent living and working environment is critical to retaining them past their initial enlistments.

We are very much aware of the concern of Congress regarding facility burden sharing in Europe and the Pacific. In Japan and Korea, we continue to receive considerable help to beddown new aircraft as well as funding support for personnel facilities and housing. In Europe we constantly press for more NATO infrastructure funds. However, some facilities we are asking for this year are needed now—before we can obtain NATO funding—to properly support our forces. We therefore seek your support for those programs which require pre-financing authority and appropriations. Our program also addresses those facil-

ities which are vital to support the RDJTF. This is in consonance with the President's stated intentions of providing accessibility to the oil producing nations of the area.

READINESS—EUROPE

Moving now to the specifics of the program, the first item is for projects to support the ground launched cruise missile (GLCM) system. Last year, in the fiscal year 1981 program, the Congress approved \$19 million to prefinance operational facilities in England. This slide portrays a typical NATO approved GLCM operational shelter. This one shows a typical squadron that consists of eight flights. If struck without warning the launchers and control center vehicles will be in hardened shelters to ride out the attack. If advanced warning is received the flights will disperse as shown on the right (G7). This next slide shows the GLCM in a dispersed mode (G3). This year we are presenting the first phase of non-NATO eligible projects supporting people to operate the system. Our request is for \$69 million at two locations. At RAF Greenham Common in the United Kingdom we need \$12.6 million to upgrade existing buildings. The remainder of this line item, \$56.5 million, is required at the second beddown location in Italy. The site, at a location yet to be announced, can provide the land needed for GLCM, but does not have facilities available for renovation. We will be building from the ground up at this site. Our request is only for the basic requirements that will be needed for base operating support functions. A second phase for non-NATO eligible projects at this site will be in a later military construction request. Operational facilities are included in the NATO infrastructure program.

Another of our high priority projects in Europe is the consolidation of United States Air Forces in Europe's (USAFE) photo intelligence functions into one composite facility at Ramstein air base. This operation is now located in a vulnerable old kaserne at Schierstein, a suburb of Weisbaden, about 60 miles east towards the Rhine River from USAFE Headquarters at Ramstein. Intelligence material provided by 497th Reconnaissance Technical Group at Schierstein is vital to execution of the air battle in the European theater. At the present time, intelligence from a number of different sources that has to be processed and exploited by the 497th is transported from the combat operation intelligence center (COIC) at Ramstein over road by courier 60 miles to Schierstein, processed, then returned by courier to the commander and his staff in the Ramstein area for use.

Our program also includes an increment of projects for minimum essential facilities to support operations at collocated operating bases (COB's), and for chemical warfare (CW) protection for squadron operations buildings and avionics shops and work to hardened key logistics facilities. The COB program, initiated in the early 1970's, provides for the Air Force, a series of strategically located air bases for a relatively small dollar investment. This slide shows the general location of COB's (unclassified version). There are 73 bases in all. It will take many years and millions of dollars to provide all required facilities at the COB's. The pressing need for operating locations for augmentation aircraft led to a decision several years ago to concentrate on obtaining minimum essential facilities (MEF) at the COB's on a priority basis. This slide shows a comparison of MCP vs. NATO funding for MEF to date.

We are now faced with a situation, where, because of other high priority infrastructure funding requirements (GLCM and POMCUS) NATO will most likely be unable to support COB requirements until 1985.

To keep this vital program moving, we need your support on the minimum essential facility (MEF) portion of the program. In this program we provide facilities for seven days fuel and ammunition storage and dispersed aircraft parking. This amounts to about \$4.5 million per base—the host nation provides the rest. Mr. Chairman, this is a relatively small investment to obtain an operational airfield. These facilities, in addition to our main operating bases, enable us to put a large number of aircraft in theater in a very short period of time. This, we believe, will make the Soviet planners think twice before making a move.

This year we are asking for \$37.12 million for 13 bases. \$24 million of this is prefinancing, therefore, recoupable. \$13.12 million is to beddown aircraft that are currently not eligible for infrastructure funding.

READINESS—PACIFIC

Our fiscal year 1982 request for readiness related projects in the Pacific continues our effort to improve the effectiveness of U.S. forces in that theater. Our proposed program includes \$31.4 million in new construction and improvement and alteration of existing operational and logistical facilities. As mentioned, the government of Japan, through its cost sharing program, has submitted over \$100 million over the past 2 years to provide housing and personnel support facilities. The government of Korea has agreed to fund a seven-year contingency program which we estimate will cost nearly \$200 million. In addition, the Koreans are committed to fund essentially all of the facilities (an estimated cost of \$75 million to beddown a U.S. Air Force A-10 squadron at Suwon Air Base.) We are encouraged with the willingness of our Asian allies to share the burden of construction costs and will continue to seek their cooperation in the future.

RAPID DEPLOYMENT JOINT TASK FORCE (RDJTF)

The ability of USAF units to perform the rapid deployment mission is currently constrained by shortfalls in present overseas bases and facilities capable to support operations. Our program is a first step in improving our ability to respond in the time of crisis and to provide an improved deterrent to Soviet military actions in SWA, the RDJTF's primary area of interest. Deployment of a force to SWA requires enroute, staging, and employment facilities. This year's program substantially upgrades the enroute facilities at Lajes and Diego Garcia to support the airlift flow that will be required to deploy and support the RDJTF. Oman and Egypt are two countries in SWA that have given us access to date. We envision building staging facilities in these countries from which forces can rapidly be moved to forward operating locations. We are requesting \$322 million (\$78.5 in Oman and \$70.4 in Egypt) to support our fiscal year 1982 requirements. Also included is a requirement for \$115 million to construct AF required facilities at Diego Garcia. We are also asking for \$9 million to construct facilities at MacDill AFB, Florida to house the RDJTF Headquarters. The requirement for this facility remains valid for the foreseeable future.

NEW MISSIONS AND MISSION REALINEMENTS

We are requesting \$76.3 million for facility support of mission and/or weapons system changes in the Continental United States and overseas. This includes \$23 million for an AWACS alert facility at Tinker Air Force Base, \$19 million for personnel support facilities to accommodate beddown of a TR-1 squadron in RAF Alconbury and the remaining funds for various weapon system support facilities throughout the Conus and overseas.

SOUND SUPPRESSORS

\$3.5 million is to provide support construction for the installation of sound suppressors at six installations. The sound suppressors for jet engine run-up testing are being purchased with equipment funds.

FLIGHT SIMULATORS

Our fiscal year 1982 request includes \$24.5 million for flight simulator buildings at seven locations. The projects continue our overall program to improve aircrew proficiency. Simulators augment in-flight training and permit aircrews to practice events which cannot be accomplished in-flight due to safety and flying hour limitations. Facilities in this year's request will house simulators for KC-10, B-52, F-4G, and A-10 aircraft.

DATA PROCESSING FACILITIES—PHASE IV

This year's program also includes the first of two increments for projects to support an Air Force wide program to upgrade base level data automation equipment. We are submitting 31 projects for \$30 million at various locations worldwide. The construction program is geared to the computer equipment delivery schedule. Delivery and installation of the replacement equipment is scheduled to commence in 1983.

MAR

We are requesting \$40.2 million to accommodate the minimally attended radar (MAR) program. This is the first of two phases to complete the necessary facility support at twelve radar sites in Alaska. The MAR concept involves replacing the existing equipment with a modern surveillance system that can be maintained and operated by a small number of personnel.

Final operational capability of the new radars is scheduled for September 1984.

UNACCOMPANIED PERSONNEL HOUSING

This year the Air Force requests \$57.6 million to continue upgrading unaccompanied personnel housing facilities. On behalf of the collective leadership of the Air Force, I want to reaffirm our commitment to the improvement of living conditions for our single enlisted personnel. Living and working conditions are key factors in recruiting and retention.

The support of this committee has been truly outstanding in the past few years, and the Air Force is grateful. However, too many enlisted people are still living in substandard facilities throughout the Air Force. I respectfully urge your continued support.

MEDICAL CONSTRUCTION PROGRAM

The fiscal year 1982 medical construction program reflects our continuing effort to support the Air Force health care program by improving our facilities to accommodate growth as well as keeping pace with technological advancements in the medical field.

Our \$106.1 million request this year places emphasis on comprehensive care for our people and their families. Included is a project to consolidate and modernize a medical center at Wright-Patterson AFB, Ohio for \$102.3 million and a \$3.8 million project to eliminate the life safety deficiencies in the hospital at Travis AFB, California.

ENERGY PROGRAM

Our energy program this year comes to \$60.2 million. The \$48.1 million energy conservation investment program (ECIP) is the backbone of our effort to reduce overall energy consumption 20 percent by 1985 compared to a 1975 baseline. Our target is for ECIP to contribute some 12 percent of our targeted reduction with the remaining 8 percent coming from management, operations, and maintenance actions. The fiscal year 1982 program maintains an average energy to cost ratio that is 50 percent above the DOD minimum.

We have 30 solar systems operational at 23 locations, three more under construction, and 20 under design. \$3.6 million of the fiscal year 1982 program is devoted to providing additional solar systems at 10 locations.

We are also pursuing the use of geothermal energy. At Williams AFB, Arizona, we are developing, with Department of Energy's help a project to provide geothermal energy for selected facilities.

At McClellan AFB, California, we received approval last year for an energy management and control system (EMCS) which will track baseline data on selected facilities, as well as provide energy savings through better energy management. This year we are requesting funds to expand this EMCS as well as upgrade a portion of the base utility distribution system.

Mr. Chairman, we are proud of our energy conservation program and the results to date. We realize that ambitious energy conservation measures are necessary not only to save money but also to reduce our dependence on petroleum resources.

We plan to continue our efforts in the future and look to your support of this program.

ENVIRONMENTAL PROTECTION

The \$6.4 million requested in fiscal year 1982 continues our effort to provide treatment to meet the more stringent air and water quality standards promulgated by EPA and the States.

This year's program includes \$3.4 million to upgrade the sewage treatment system at Ellsworth AFB, South Dakota, to meet environmental protection agency requirements and a \$1.5 million for Wurtsmith AFB, Michigan, to provide a

permanent aeration system to remove 80 to 90 percent of an identified trichloroethylene contamination of the base water system.

With the increased awareness of the potential hazards associated with the disposal of toxic and hazardous substances, we anticipate future year programs will include funds for such purposes.

Mr. Chairman, by its nature, the environmental protection program must be phased over several years as criteria and standards are developed. Although our budget for these programs has been limited, we have kept pace with the incremental requirements, and we plan to continue our efforts in the future until all Air Force locations are in compliance with the standards currently in effect.

OCCUPATIONAL SAFETY AND HEALTH IN THE WORKPLACE

This year's program includes projects totaling \$6.1 million, at three locations specifically to provide safe and healthful workplaces for our employees. The program is based on the long established Air Force commitment to the principles of safety and health in the workplace that was mandated in the Occupational, Safety and Health Act of 1970. To this end, we have developed a phased plan for the identification, budgeting and funding for the correction of all known deficiencies in Air Force workplaces.

COST ESTIMATES AND DESIGN

Projects we are presenting to the committee today are based on solid engineering and design estimates insofar as possible.

I must admit however that because of economic uncertainties at home and overseas, it is becoming increasingly difficult to predict the marketplace regardless of the percentage of design completion. Rest assured, however, that the estimates before you have been developed from the best possible data available to us, and that all but a few projects are at the 35 percent design stage or better. We wish to assure the committee that our goal for all projects is to obligate construction funds in the year appropriated. We are confident we can achieve this goal.

CONCLUSION

In conclusion, Mr. Chairman, we wish to assure you and your committee that this program represents our best judgment and priority construction requirements within the confines of our budget. Capital investment is proposed only for those installations programmed to remain in the inventory.

Mr. Chairman, this concludes my prepared statement. I thank you for the opportunity to appear before this committee today. If there are any questions about our program we will be pleased to respond as well as provide additional information as you require.

General WRIGHT. We have a briefing that we would like to cover with you.

Senator THURMOND. We have about 10 minutes before I have to leave. Then I will be back.

General WRIGHT. The first item we would like to cover is the space transportation system, the Shuttle. Our request this year is for \$9.3 million for facilities at Goddard Space Center and at Vandenberg Air Force Base. The fiscal 1982 program should essentially complete construction required to provide an IOC of about 10 launches a year for the Shuttle.

In future years, we will request facilities to implement thrust augmentation and increase the launch rate at Vandenberg to about 20 a year. The total Air Force construction cost for Space Shuttle is estimated to be about \$460 million. I have three slides showing the major facilities we are requesting in the 1982 program at Vandenberg. The first is for work to dredge a basin and construct a dock and tow route. This is required to receive the large external tank that comes by barge from the manufacturer in Louisiana. The tank is then towed to the launch facility where it is mated with the orbiter.

The second slide shows a cutaway of the parachute refurbishment shop. This is where the chutes that bring down the reusable solid rocket boosters are taken and made ready for another launch. The third slide shows the building we will modify for flight crew quarters and life support equipment storage.

The next subject is MX. This is the third year we have come before this committee for MX construction funding. In fiscal year 1980 the Congress provided \$57 million to construct test facilities at Vandenberg AFB, Calif., and \$5.4 million was approved for alteration of engine test cells at Arnold Engineering Development Center, Tenn., to altitude test the second, third, and fourth stage motors of the missile. Construction is well underway on both items. In fiscal year 1981 an additional \$17.1 million was authorized for further test facilities at Vandenberg.

This year we are requesting \$366 million for MX support facilities. This submission is keyed to a basing decision this summer.

General McCarthy is prepared to give a briefing on the system but in the interest of time I would like to provide that briefing for the record with your permission.

Senator THURMOND. Without objection it will be entered into the record.

[The MX system program description follows:]

PREPARED STATEMENT OF JAMES P. MCCARTHY, BRIG. GEN. USAF
SPECIAL ASSISTANT FOR MX

MX SYSTEM PROGRAM DESCRIPTION ¹

The following discussion will give you an understanding of the current baseline MX system as well as the processes that we go through to meet Initial Operational Capability (IOC). IOC is presently planned for 1986.

When we started designing a strategic system to meet the growing threat, we based our design on the conclusions of the last 20 years that it was necessary for the U.S. to maintain the unique characteristics of the land-based ICBM. The importance of these characteristics in the military and political strategic equations is universally considered a "Sine qua non." Therefore, MX is designed to maximize the utility of these land-based ICBM characteristics reflected on this chart.

[Chart deleted.]

The current design is changed somewhat from the design that we presented to the Congress last year.

The MX missile itself is basically unchanged from what was briefed before. It is a 4-stage, predominately solid propellant, missile that is planned to carry 10 warheads and has the capability of striking targets with significant accuracy anywhere in the world. Development of the missile is on-going, and I will cover signs of our progress later in this briefing.

[Chart deleted.]

This chart compares the size of the MX to other land-based ICBM's. The MX missile is the one on the right-hand side; the other white missiles represent the current United States ICBM inventory. From left to right the U.S. missiles are Titan II, Minuteman II, Minuteman III and MX. Titan II was deployed in the early 1960's Minuteman II was deployed in the mid 1960's Minuteman III was deployed in the late 1960's and MX is currently in full scale engineering development.

The other systems that you see are Soviet systems. What is of particular concern to us are the SS-17, 18 and 19, which you see by comparison are significantly larger than the U.S. proposed MX system.

[Chart deleted.]

¹ Charts retained in committee files.

The multi-protective shelter design is the concept we propose for deploying the system as this demonstrates.

[Chart deleted.]

This is an artist's view of a valley in Nevada and Utah. If we drew the lines used to represent the MX road network to scale, you would not be able to see them with the human eye on this graphic. To provide a perspective on the artistic license of the slide, the valley pictured is a typical valley about 150 to 200 miles long and 30 to 50 miles wide. The roads are about 24 ft. wide. Pictured on this chart is the multiple protective shelter system that gives MX its unique basing capabilities. The concept is to house one missile in one of 23 concrete and steel shelters. This is done in a manner such that the Soviets would not know which shelter has the missile. Therefore the Soviets would have to target 23 shelters to hold one 10 warhead MX missile at risk because they would not know which shelter has the missile.

This concept provides what is known as an "adverse exchange ration." What this means is that if start from a position of near parity, and the Soviets must use at least 23 of their warheads to attempt to destroy 10 of ours, the more they strike our system, the further behind they fall in numbers of remaining warheads. This is significant because "remaining warheads" is considered by most military experts to determine the final outcome of a strategic exchange. Because we do not believe the Soviets will do something that is not in their best interests, we believe this concept deters attack on MX and thus provides survivable basing. Therefore, MPS basing enables us to continue the unique characteristic of the land-based leg of the Triad.

I will discuss MX shelter design in greater detail later but I would point out on this chart that a group 23 shelters along a line associated with one missile as depicted here on the chart is called a cluster. Each MX cluster has a cluster maintenance facility building in which maintenance on the missile and its launcher can be performed. Furthermore, under the present concept, each of the clusters are isolated from other portions of the system by an earthen barrier. This is one of several strategic arms limitation characteristics that are built into the current design. Earthen barriers and other SALT features do not affect the operational capability of the system. They are simply additions that enhance verifiability. Each of the shelters within the cluster is at least a mile away from its nearest neighbor, and is located according to a two-thirds filled hexagonal pattern that permits backfill of other shelters along the same roads should that ever be necessary.

Within a valley there may be a number of clusters. The layout pattern is what I call conformal. That is, shelters can be positioned within the valleys to make the most effective use of land. We have sufficient flexibility in siting shelters that if we come upon an environmentally sensitive area we can move a planned shelter to a different location.

This is an actual photograph [deleted] of one in a valley in the Great Basin. This one happens to be in Nevada, and it has an artist's concept of what a shelter would look like drawn onto the photograph.

Surrounding the shelter you see a livestock fence which enclose, the two-and-a-half acres of land for each shelter that would be withdrawn from public lands for exclusive Air Force use.

The shelter is basically a concrete and steel tube of about 14½ feet inner diameter and of about 170 feet in length. It is put in the ground in such a way that it is half above and half below the ground. The earth taken out to lay in the concrete and steel tube is placed over the tube, and leveled off to return the area as close to its natural habitat. A 14½ foot bank-vault type of door provides security for the shelter and access into the shelter.

This slide [deleted] depicts a transporter which has moved up to a shelter to deliver a missile. This is an artist's concept of the transporter. Later I will show an actual photograph of one that we have built and that is being used right now in the Nevada desert to test our capability to operate it on compacted gravel roads.

When the transporter drives up to the shelter a door rolls out to screen the operation. The door bumps up against the shelter and then an exchange takes place. Inside each of these concrete and steel tubes is what we call a mass simulator. It is a concrete and steel shape that weighs the same and has the same mass characteristics as a missile. If the transporter is carrying a missile when it drives up to the shelter, the first thing that happens is the concrete

and steel simulator is pulled onto the transporter. Then one of two actions takes place. Either the simulator is put back into the shelter, or the missile is put in. Even if someone were standing in close proximity, he would not be able to tell visually or using instrumentation whether it is the missile or mass simulator that is now in the shelter.

The transporter weighs approximately a million pounds. The canisterized missile, that is the missile and its launcher and support equipment within a canister, weighs approximately a half million pounds, and the mass simulator weighs the same.

We have actually tested a transporter vehicle. It looks slightly different than this but has similar characteristics. We have tested it on gravel roads we have built in Nevada and are very pleased with the results of that particular effort.

Having completed its operation at a particular shelter, the transporter will then take its simulator or missile and move to the next shelter. It visits all 23 shelters. Each time it completes its action in such a way that one could not tell which shelter has an MX missile and which shelters have mass simulators.

This is what the system looks like on execution, if the missile would ever have to be launched. Upon an execution command the launcher canister would slide forward out of the shelter. The top part of it would drop off. The launcher would be cantilevered to an upright position. The missile would then be cold launcher out of its launch tube. As the missile passes outside the tube, the first stage of the missile would fire and it would be on its way to its target.

I would point out that within this system there is very little new technology. The propellants, for example, are similar to that used in the MM III and Trident missiles. The entire MX concept is well within the state of the art.

Now, I would like to update you on the status of the program.

[Chart deleted.]

First of all, we have activities going on pretty much across the country. This represents the locations of the major contractors. There is a concentration of effort on the west coast because of the location of a larger part of the aerospace industry in California. But, virtually all States are involved in some aspect of the contractual arrangements for MX.

Here are depicted the major achievements in this calendar year. We have completed system design review which is that part of our research and development program that basically finalizes the concept. We have conducted transporter road mobility tests using a million-pound vehicle in the Nevada desert. We have filed our draft environmental impact statement, which I will comment on more in detail in a minute. We have completed about a million hours now on the gyro system to test its capability. We have, also, conducted underground tests called "Miners Iron" to test underground components to assure their efficiency in the nuclear environment.

[Chart deleted.]

This is a test firing of the first stage of the MX missile. This is built by Thiokol and tested in Utah. The test firing was quite successful.

This is the second stage of the missile built by Aerojet, and it too has been successfully test fired.

This is the third stage test firing at Hercules in Utah. We have successfully test fired this stage.

This is the Advanced Inertial Reference Sphere (AIRS). The AIRS system is suspended in a liquid that permits the individuals building the system to operate on it in a dust-free environment. The system is showing great success and has been tested on an aircraft already.

This is the photograph of the transporter that we are testing in the Nevada desert. To give some idea of the size, the picture includes two individuals standing beside it. They are about half the height of the tire. There is also a standard blue pickup truck to provide some idea of the comparison of the size of this vehicle. Our tests with this vehicle have been very promising. We estimate that it will move between 25 and 35 miles per hour without any difficulty on compacted gravel roads.

There is some misunderstanding about the frequency with which MX missile moves would be required. In our estimate MX missiles will have to move about three times per year. So there will be very little activity once the missile is put in its cluster. The long mean time between failure for the parts of the missile is the basic reason that such infrequent movement will be possible.

At Vandenberg Air Force Base, we are building facilities to support test flights of MX missiles in early 1983. We have construction underway on four different facilities out there right now.

There are the key activities scheduled for calendar year 1981. All motor stages will be test fired at sea level. We will complete this year our initial test firings in the altitude chambers. I think you can appreciate that while the first stage fires near the ground, the subsequent stages fire in a different atmosphere and, therefore, tests in the altitude chamber are necessary. We are also doing sled and centrifuge guidance and control testing at Holloman Air Force Base. We will have missile systems critical design review so that the first flight test will be in 1983. We plan to file the final environmental impact statement and initiate land acquisition, and I will describe that time table to you in a little greater detail.

We have initiated a new shelter constructability test in the Nevada desert. What we will do is use two methods, precast and cast in place. We will construct a number of horizontal shelters so that we can determine which is the most cost effective method. The requirement from our standpoint is to build the shelter with a minimum amount of resources, minimum amount of disruption to the subject area and the minimum labor force.

Next, I will cover our critical path to IOC, i.e. what we need to do to meet our initial operational capability requirement of mid-1986.

This is the MX program schedule. [Chart deleted.] We entered full-scale engineering development (FSED) with the President's decision in September, 1979. FSED means we are designing the hardware and preparing for the flight testing for the construction of the system. Roads, utilities, and facilities support will begin construction in early 1982. That will be at the first main operating base, which under the Air Force's proposed action, would be at Coyote Spring Valley in the vicinity of Las Vegas, Nevada. It will require about 6,000 acres of public land and, therefore, legislation. The first flight test is in early 1983. At the same time we need to begin our facility construction for the designated assembly areas, i.e. the specific area in which MX missiles will be built and loaded into canisters for movement around the system. It is clear that construction is the pacing factor, and we need to start that in early 1983. Roads, utilities and facilities support are necessary to support the designated assembly area construction.

We begin our protective shelter construction in early 1984, which leads to an initial operational capability in 1986. Under our present schedule, the full system will take until 1989 to complete, i.e. put the full 200 missiles on alert.

Facing us as we proceed down the MX schedule are two basic decisions. First, what geographic area will be chosen to deploy the MX? Second what are the operating base locations that will support it? The following charts explain the process that we have gone through to come to these decisions.

We started with the so called "narrowing process." [Chart deleted.] It is clearly defined in technical report No. 1 of the draft environmental impact statement. We began by considering the whole United States to determine where the most effective places might be to base the system. Using geotechnical criteria, we narrowed this area down to basically the southwestern portion of the United States. Example of those criteria included 50 feet to bedrock, 50 feet to ground water, and no more than a 10 percent slope.

We then looked at the candidate deployment areas from the standpoint of military implications and operational considerations. We used criteria such as potential threats from outside the shoreline or borders of the United States and decided to narrow further to what we call the reasonable deployment areas. Those areas were located in four separate states, i.e. Nevada, Utah, Texas and New Mexico. We have planned conceptual layouts of the system within those four states. Using a similar process we have also "narrowed" to seven main operating base locations that could support MX deployment in the four states.

Basically, then, the deployment alternatives are to place the entire system in Nevada and Utah; place the entire system in Texas, New Mexico; or split base the system.

Split basing is a concept that we studied both as an alternative in the EIS process and in response to congressional direction. It is basing MX in two geographically separated areas to minimize the impacts of basing entirely in one area.

[Chart deleted.]

This chart is a map of Nevada and Utah. The white areas represent suitable deployment areas of MX hardened shelters. The criteria that I described to you earlier apply; but, in addition, we avoided certain environmentally sensitive areas and areas that are presently used or programmed for other purposes.

Under this proposed deployment the Air Force would build the system in a subset of this area. Our proposed action is to build the first main operating base at Coyote Spring Valley. Alternatives for the first operating base location in Nevada are three locations adjacent to Ely, Nevada.

Our second proposed main operating base is near the community of Milford, Utah. Two alternatives to that location are Beryl and Delta, Utah.

[Chart deleted.]

This is the Texas-New Mexico map. The white areas represent suitable areas for MX deployment. The first main operating base for a Texas-New Mexico deployment would be at Clovis, New Mexico. Since we already have an existing Air Force base there, Cannon Air Force Base, we would simply build the MX facilities as an adjunct to that existing base. The second main operating base would be at Dalhart, Texas.

We have completed the split-basing study that was directed by Congress last year.

We have already submitted the report to Congress.

This split basing concept would deploy half the system in Nevada and Utah with the first main operating base at Coyote Spring Valley, Nevada. The second main operating base would be at Clovis to support the portion of the system in Texas-New Mexico.

We submitted the split basing study on the 19th of January 1981. It was directed by the 1981 authorization act. The study conclusions were that there are no overriding advantages or disadvantages to split basing. We considered environmental, operational, and arms control considerations.

We did find that split basing would increase acquisition costs, primarily due to a duplication of facilities, by about \$3.5 billion in constant year 1980 dollars. Further, the operational and support cost would increase for the system. The additional cost each year to operate the system in a split mode are approximately \$19 million.

Perhaps one of the most fundamental considerations has been environmental impact. We have been working on the environmental impact process for a number of years. Several years ago, the Air Force completed the first MX EIS for a buried trench construction test in Arizona. We completed a second environmental impact statement, and a supplement for "air mobile," as part of the process to go into full-scale engineering development for the system that I am briefing. We are now well along on our third environmental impact statement, which is for the selection of the basing area of the main operating base locations.

As we have worked on the EIS, we have come up with key issues that are of concern to the people in the states of Nevada and Utah, where I have done a substantial amount of travel. I would like to briefly discuss those issues with you.

One of the main concerns of the people in that area is the population growth that will come with MX if the system were deployed here. We estimate a work force of approximately 20,000 people in the peak year and, of course, that would bring some indirect employment and some of those people would bring families to the area. An obvious concern about that is the "boom/bust" phenomenon.

If you look at the deployment area, the anticipated growth rate without MX is projected to be 3.2 percent for the period of time we are talking about. MX would add another 1 percent growth rate to the Nevada/Utah deployment area. Although the 3.2 percent to 4.2 percent on the surface does not look like a major growth, this might be misrepresenting what would happen. Growth varies depending upon the locations that we are talking about. For example, in proximity to Las Vegas where we are proposing the first main operating base, the infrastructure that already exists in that heavily populated area could absorb that growth rate pretty well. We estimate only approximately a 5-percent increase in activity and population at the peak year for MX because of the existing infrastructure. For a community like Milford, Utah, the growth rate would be substantial, several hundred percent per year. However, in discussing that with the people who live in the deployment area, we have come up with various ways that we can alleviate some of that growth. One of the concepts is to spread the growth by building a good transportation system from the base to each of five or more different communities. The communities include Milford, Cedar City, Beaver, Minersville, Beryl Junction, and others. An assessment of the population impacts depends upon individual perspective. We acknowledge that unplanned population growth offers the potential for boom/bust.

Most people consider the potential economic impacts to be quite positive in that they will bring, after construction is complete, a steady state system that should last for many years and should provide stable employment and economic stability to the area.

But people in the proposed deployment areas have also expressed concern about what will happen to labor rates and inflation as a result of the wage rates that need to be used to attract workers to that particular area.

Water is a significant problem in the western states and we have been working to understand that for several years. Using professional engineers under contract, we have done drilling analysis of water in those states and our conclusions to this point are that there is sufficient water to build and operate the MX system.

This story appeared in the Salt Lake Tribune. It reports that Utah Water Resources Division study, suggests that there is sufficient water for both MX and the synfuels development that is also planned for those particular states.

We need water for construction, for mixing cement, and for people. Right now a significant amount of water is planned in our estimates for dust suppression and for revegetation. But we believe that we are making some mitigation progress in this area. We have come up with a system that we are testing to use some materials, including water out of the Great Salt Lake, mixed together to form a road surface that once layed down does not require, even on a gravel road, any surfacing or further dust suppression. So far, tests in that area make us optimistic that we can reduce our water requirements.

I do not mean to present water as a nonissue. It's an issue. But nothing in our research at this point suggests that there is not sufficient water. Further, we are committed, as directed by Congress, and as previously stated by the Air Force, to follow state water laws.

The State water laws in Nevada/Utah prohibit interference with present allocations. The state water engineer has a responsibility to judge each application and to make a determination of the requirements and the allocations and whether an individual request will compete with existing uses.

Buying water is one of the alternatives that is available; As a matter of fact, we have quite a few people that are offering to sell it to us. But it's only one of the alternatives. We are drilling wells out there to determine where we might get other water.

One of the most exciting things that we are doing is deep water aquifer drilling. There is a thought among water engineers that there is a basin of previously untapped water lying beneath the Great Basin in an area that does not cover all the deployment area but covers the central portion of the deployment area. In previous oil explorations, and in our initial tests, we found water at some significant depths—four or five thousand feet. In Coyote Spring Valley it occurred at a substantially shallower depth.

Our understanding of the deep basin is that it is a system in that it is independent of the present ground water system as we now describe it. It's an untapped resource.

It would not be necessarily an economical venture for a rancher, for example, to drill that system and then pump its water to irrigate ranch land. But it is a source of water that could be used if we are not able to find sufficient ground water in the various valleys to meet the MX construction needs.

I must point out that Texas/New Mexico also has a water problem in that most of the area we are talking about is above the Ogallala aquifer which has been declining; the ranchers and farmers in the area say it is declining at a rapid rate, which is making in some areas the agricultural use there uneconomical.

So in some ways the use of water in Texas and portions of New Mexico would be more adverse than using water in what is considered to be by most people a scarcer area, Nevada and Utah.

Land use is an area that is a concern to all of us. The concerns of the people out there involve area security as well as the belief that the Air Force would not permit all of the things we are talking about permitting up to the fenced-in area. Basically, the concept that we believe is necessary for security is the same concept we have been using successfully with the Minuteman system. That is, the area within the fence line, the 2½ acres that cover each of the shelter sites, would be off limits to other than authorized people; however, the areas immediately around the shelter sites would be available for all of the existing activities and projected activities that we could see.

We believe that just as the Minuteman system is accommodating increased activity, farming, ranching, recreational activities, that go right up to the fence, so could the shelter areas in Nevada and Utah as well.

The concept of area security in my professional judgment is unworkable. The idea that you could put several thousand square miles of land behind a fence and keep it secure—I am not taking about keeping people off but keep it secure—is an unworkable concept in my personal view. I don't see how we would ever advocate that kind of a system.

Much of the area that we propose for MX deployment is public land. As a matter of fact, 98 percent in Nevada and Utah is public land. Much of that land is used for two activities. The first is grazing.

The grazing activity represents small ranches in terms of the area that they have deeded to but they use the public lands on an allotment basis to run some large herds. The land is not productive relative to other portions of the country, but the cattlemen use the lands as open range and are able to have an economically viable operation using that capability. They are concerned about the disruption that will occur because of the MX deployment basing mode. Our assessment in the environmental impact statement shows that on a regional basis less than one percent of the present animal unit months, which is a measurement of how you determine productivity of land, will be affected by that. Now obviously, that impact, as we talked about in the population growth area but to a much lesser extent, is greater in the areas immediately proximate to the main operating base. The system changes—although small—have been made to accommodate concerns of the cattlemen, and we believe that both operations can exist effectively in that same land area.

Mining is the second concern. It has been the Force's position in testimony before Congress, that one of the major problems facing this country is the need for strategic materials. There is a thought by some that there is a potential for mining conflicts after we build the MX system. Most of the mining areas in Nevada and Utah are in the foothills or mountainous areas and there is very little mining in the alluvial fill, although we acknowledge that sometime in the future there may be increased activity.

All of our shelters are located within the alluvial fill, and that avoids much of the conflict between mining and the MX. On the other hand, we have said that because we believe only infrequent conflict would occur that, with Congress' concurrence, we would be prepared to move a shelter, if necessary, if it happened to exist right on an economically developable ore deposit. It would have to be a certain type of mining operation before we would even have that problem. Petroleum exploitation or shaft mining for example, is such that we could accommodate those with the MX deployment plan without moving shelters. It is only open pit mining that might affect the alluvial fill valleys. Open pit mining is presently a very infrequent occurrence in the deployment area.

Finally, mitigations. I would develop mitigations in two particular areas: One is the biophysical. What can be done to build and operate the system to minimize the adverse effect by making sure we don't destroy the desert and all of those other concerns that people have expressed in this area. To do that, I and my staff and others who work on the program in a contractual role and supporting agencies are working to understand the problems. We believe that our construction contracts can limit the number of problems that are projected. We are not however, trying to tell this committee that you can construct a project of this size without having adverse effects.

For example, one of the concerns is revegetation after we disrupt the land for construction because of the possible introduction of a weed known as Halogeton. If you do not take some action against Halogeton, it will spread. It is considered poisonous to livestock. Obviously, a widespread Halogeton problem would have an adverse impact on the livestock industry. Halogeton is a pioneer plant that comes in where land has been disturbed. We found several different plants that are effective against it such as *Koshapastrata*. We are now planting this plant and others like it in Nevada and Utah to understand how they work with Halogeton. We have professional agronomists working on this problem. They suggest that several weeds offer a potential for keeping Halogeton out. Our tests are preliminary; but we should have some better information at the end of the growing season.

The other mitigations are socioeconomic. What happens to communities such as Milford when you have an influx of people who will live in the area? At our

first main operating base, proposed for Coyote Springs, we would have about 7,500 employees. About a third of those would be civilian and two thirds would be military. Military would require off base housing to the degree that housing is not available on the base, but the civilians people would have to live in surrounding communities. At the second main operating base, which we propose at Milford, we have a smaller base population, about 5,500, and the same concept of housing applies. So if you have a number of people coming into those areas you have an immediate requirement for expansion of services without having a sufficient tax base with which to provide those services.

Traditionally, Congress has appropriated money to offset those types of impact, and the most recent experience was Trident West, which is in Kitsap County, Washington. Congress provided some \$80 million to help that area with infrastructure facilities which were used for schools and fire stations and other infrastructure services until the tax base can catch up. We support that effort and last year Congress in Section 803 called for a study of the most effective way to support economic assistance to those communities which would be unable to absorb this burden.

We have an on-going planning process with the states of Nevada and Utah which I think has been most effective. First of all, the governors of each of the two states have formed intergovernmental working groups, on which I am a member representing the Department of Defense. There are other federal agencies such as the Office of Economic Assistance, the Corps of Engineers, represented on these working groups.

In addition, representatives from state and local governments work with us on a monthly basis identifying issues and attempting to resolve them.

The second level of effort we have taken involves particular areas of concerns. I will use transportation as an example although there are a number of areas where we have brought to bear federal agencies' participation along with state and local people experts. We are trying to understand the transportation requirements for Nevada and Utah and have worked to define what the requirements are in advance of construction so that we can be out ahead.

The basic position we are in now is that we believe that the impacts in the deployment area will be substantial but by careful planning, advance work, and cooperation, the problems are manageable and we can deploy the system with minimum disruption to both the biophysical and the socioeconomic environment.

This is the environmental impact statement schedule [deleted]. We completed release of the draft environmental impact statement in December, 1980. We sent it to the Environmental Protection Agency, which published a notice in the Federal Register. We began the public comment on the 2nd of January. The public comment period which is required by law to be only 45 days was extended to 120 days and ended on the first of May. In addition, public hearings were held at 20 different locations with 40 different hearings. These were designed to provide the public the opportunity to provide their comments in a hearing format.

We have allowed a 2-month period to incorporate those comments into a final environmental impact statement process. Obviously, the amount of time it takes to do this is dependent upon the number and substance of the comments we receive, but we believe that we can make an adjustment to that schedule if necessary.

In addition, we have set out a process that permits us to introduce EIS comments and to gather them into categories and assign responsibility for answering them within our contractor organization to ensure that we have the most rapid response possible. Then we have allotted time for receiving and printing. With all this we anticipate the environmental impact statement should be published in July.

After a 30-day waiting period, a decision on both the main operating base locations and the deployment area is possible in August.

Based on our schedule, the deployment area decision could be made in August. We are taking actions necessary to prepare for land withdrawal and would identify the areas that we wish to withdraw in the Federal Register.

The BLM is required to hold public hearings which would be done in this time frame.

Legislation to Congress as shown on the chart will be early in the next session. We hope to have land for initial construction in March or April of next year. Subsequent increments of land would be withdrawn as required throughout the construction of the system.

The MX system cost is an area that has always caused considerable interest. If you look at the prior years on this cost chart, Congress appropriated almost a billion dollars for the MX system in 1980 and prior years. In 1981 it was about 1.5 billion dollars.

Our 1982 budget request is approximately \$3 billion. That figure includes the supplemental, which was added by the Reagan Administration and the amended 1982 budget. Our 1983 budget is still to be defined, but it should be about \$5 billion.

The total cost of the system in 1978 dollars is \$28.6 billion. A more familiar figure to most of you is the 1980 dollars cost figure that we used last year which is \$33.8 billion. The then-year cost depends on the inflation factor you choose to apply to the system.

The MX system is designed to meet the projected threat. There is speculation that if we don't have strategic arms ceilings that keep the number of warheads down, they will increase at a rapid rate. At that point we would be faced with a decision. One of the alternatives to that decision is to build additional shelters. There are other alternatives to meet the threat and they include such things as ballistic missile defense.

At this time the Department of Defense is reviewing the MX basing issue. The review is by a panel chaired by the Nobel Prize Winner Charles Townes. The panel will look at the system and determine if it is the system the new Administration would accept as the way to base the MX.

The \$33.8 billion cost of MX in 1980 dollars, is certainly significant, and I don't mean to minimize the cost; but to put them in context with other strategic systems that this country has built, and using 1980 dollars to make that comparison, the Minuteman system cost us about \$40 billion; the Polaris-Poseidon about \$40 billion; B-52 \$60 billion; the Trident program is now scheduled at about \$39 billion.

In addition, the operating costs for the system, while slightly higher than Minuteman, are substantially lower than the other systems that require constant movement or constant activity of training such as the B-52 system.

So we believe, that while we are not trying to minimize this investment of tax dollars in a defense system, as strategic systems go, it is quite comparable in its overall costs.

Concluding, I would point out that the need for MX has to be viewed in light of the Soviet's determination to build a capability that is now threatening our land based ICBM force. The Air Force has been studying for some 20 years how to meet this threat. This is the system that we believe most effectively meets that threat from an operational standpoint and from cost-effectiveness standpoint.

General WRIGHT. To keep from falling further behind, yet comply with the law we have had to initiate base comprehensive planning and detailed facility design at four alternative sites: Coyote Spring, Beryl, Milford, and Clovis. Design of buildings and structures—vertical facilities—is underway and, as directed by the Congress last year, will remain on-site specific until all terms, conditions, and requirements of the National Environmental Policy Act are met.

These next slides present a summary of the type facilities that we are seeking in the 1982 program this year. As you can see, most of these are in the support area and enable us to mobilize to begin construction of the system.

One item, sir, that is important to us is the \$11 million complex at Norton Air Force Base in California. We feel as though this is a very significant project required to provide facilities to house the agency that will support, design, and construct the MX. We are proposing to purchase five buildings outside Norton Air Force Base.

Sir, the next item I would like to cover is the air launched cruise missile system. We are seeking four projects at four locations to accommodate the beddown of this system. These projects are at Ellsworth AFB, S. Dak., Blytheville AFB, Ark., Carswell AFB, Tex., and Fairchild AFB, Wash.

FY 82 MCP

	COST THEN YEAR - \$M
• SITE DEVELOPMENT	
ROADS	89.5
RAILROADS	53.6
UTILITIES	38.1
• MOBILIZATION	
SUPPORT FACILITIES	
INTEGRATED SUPPORT COMPLEX	28.4
VEHICLE MAINT	5.0
SHOPS FACILITY	3.7
WAREHOUSES (2)	7.1
FIRE STATION	2.9
MISCELLANEOUS FACILITIES	2.7
CONSTRUCTION CAMPS	
LIFE SUPPORT CAMP	18.1
CONSTRUCTION SUPPORT YARD	9.5

4

FY 82 MCP Continued

	COST THEN YEAR - \$M
• OPERATIONAL BASE TEST SITE	
TEST SUPPORT BUILDING	14.5
ROADS & UTILITIES	9.0
• LONG LEAD ITEMS	
BRIDGE CRANE	4.4
ELECTRICAL DISTRIBUTION	8.9
BOILER AND CONTROLS	37.2
SUB-TOTAL	332.6
• HORIZONTAL PROTECTIVE SHELTERS (VAFB)	12.9
• REAL ESTATE ACQUISITION	9.5
• SUPPORT COMPLEX (NAFB)	11.0
SUB-TOTAL	366.0
• PLANNING AND DESIGN	156.3
M-X P-3300 TOTAL	522.3

5

To increase the readiness of our combat forces also continues to be one of our highest priority requirements. Our basing structure is a vital part of our readiness equation because we, unlike the other services, will fight from our fixed main operating and collocated operating

overseas bases. Thus, to optimize our combat capability, we must have with a decent living and working environment is critical to retaining adequate runways, hardened shelters, hardened and chemically protected operational and support facilities, and protected storage for war reserve materials.

In addition to their direct role in combat sortie generation, our facilities play an important part in sustaining the morale of our people in peacetime. Many of our people, especially the young enlisted members, spend 24 hours a day on our overseas bases. Providing them them past their initial enlistments.

We are very much aware of the concern of Congress regarding facility burden sharing in Europe and the Pacific. In Japan and Korea, we continue to receive considerable help to beddown new aircraft as well as funding support for personnel facilities and housing. In Europe we constantly press for more NATO infrastructure funds. However, some facilities we are asking for this year are needed now—before we can obtain NATO funding—to properly support our forces.

We therefore seek your support for those programs which require prefinancing authority and appropriations. Our program also addresses those facilities which are vital to support the RDJTF. This is in consonance with the President's stated intentions of providing accessibility to the oil producing nations of the area.

Moving now to the specifics of the program, the first item is for projects to support the ground-launched cruise missile (GLCM) system. Last year, in the fiscal year 1981 program, the Congress approved \$19 million to prefinance operational facilities in England. This slide [deleted] portrays a typical NATO approved GLCM operational shelter. This one [slide deleted] shows a typical squadron that consists of eight flights. If struck without warning the launchers and control center vehicles will be in hardened shelters to ride out the attack. If advanced warning is received the flights will disperse as shown on the right.

This next slide [deleted] shows the GLCM in a dispersed mode. This year we are presenting the first phase of non-NATO eligible projects supporting people to operate the system. Our request is for \$69 million at two locations. At RAF Greenham Common in the United Kingdom we need \$12.6 million to upgrade existing buildings. The remainder of this line item, \$56.6 million, is required at the second beddown location in Italy. The site, at a location yet to be announced, can provide the land needed for GLCM, but does not have facilities available for renovation. We will be building from the ground up at this site. Our request is only for the basic requirements that will be needed for base operating support functions. A second phase for non-NATO eligible projects at this site will be in a later military construction request. Operational facilities are included in the NATO infrastructure program.

Another of our high priority projects in Europe is the consolidation of U.S. Air Forces in Europe (USAFE) photo intelligence functions into one composite facility at Ramstein Air Base.

You can see from that map, sir [slide deleted], when the USAFE headquarters moved from Weisbaden to Ramstein part of their photo intelligence function was left in a vulnerable kaserne in a little town

of Schierstein, outside Weisbaden. We feel that it is very, very important to collocate this activity with the operating headquarters of the U.S. Air Forces in Europe at Ramstein Air Base.

It is about 60 miles away and data has to be transported over road from the Intelligence Center at Ramstein up to the Weisbaden area where it is processed and interpreted and then returned to Ramstein. It is bad enough doing this in peacetime but we feel in a wartime environment that this would be virtually impossible.

My NATO program, Mr. Chairman, includes an increment of projects for minimum essential facilities to support operations at collocated operating bases (COB's), and for chemical warfare (CW) protection for squadron operations buildings and avionics shops and work to hardened key logistics facilities. The COB program, initiated in the early 1970's, provides for the Air Force, a series of strategically located air bases for a relatively small dollar investment. This slide [deleted] shows the general location of COB's—unclassified version. There are 73 bases in all. It will take many years and millions of dollars to provide all required facilities at the COB's. The pressing need for operating locations for augmentation aircraft led to a decision several years ago to concentrate on obtaining minimum essential facilities (MEF) at the COB's on a priority basis. This slide shows a comparison of MCP vs. NATO funding for MEF to date.



MEF FUNDING



	<u>US MCP</u>	<u>NATO INFRASTRUCTURE</u>
1976		5.9
1977		23.4
1978	25.0	8.2
1979		5.2
1980	3.6	20.4
1981		40.2
TOTAL	\$28.6M	\$103.3M

We are now faced with a situation where, because of other high priority infrastructure funding requirements (GLCM and POMCUS) NATO will most likely be unable to support COB requirements until 1985.

To keep this vital program moving, we need your support on the minimum essential facility (MEF) portion of the program. In this program we provide facilities for 7 days fuel and ammunition storage and dispersed aircraft parking. This amounts to about \$4.5 million per base—the host nation provides the rest. Mr. Chairman, this is a relatively small investment to obtain an operational airfield. These facilities, in addition to our main operating bases, enable us to put a large number of aircraft in theater in a very short period of time. This, we believe, will make the Soviet planners think twice before making a move.

This year we are asking for \$37.12 million for 13 bases; \$24 million of this is prefinancing, therefore recoupable; \$13.12 million is to bed down aircraft that are currently not eligible for infrastructure funding.

Our fiscal year 1982 request for readiness related projects in the Pacific continues our effort to improve the effectiveness of U.S. forces in that theater. Our proposed program includes \$31.4 million in new construction and improvement and alteration of existing operational and logistical facilities. As mentioned, the Government of Japan, through its cost sharing program, has committed over \$100 million over the past 2 years to provide housing and personnel support facilities. The Government of Korea has agreed to fund a 7-year contingency program which we estimate will cost nearly \$200 million. In addition, the Koreans are committed to fund essentially all of the facilities—an estimated cost of \$75 million to bed down a U.S. Air Force A-10 squadron at Suwon Airbase. We are encouraged with the willingness of our Asian allies to share the burden of construction costs and will continue to seek their cooperation in the future.

The ability of USAF units to perform the rapid deployment mission is currently constrained by shortfalls in present overseas bases and facilities capable to support operations. Our program is a first step in improving our ability to respond in the time of crisis and to provide an improved deterrent to Soviet military actions in SWA, the RDJTF's primary area of interest. Deployment of a force to SWA requires en route, staging, and employment facilities. This year's program substantially upgrades the en route facilities at Lajes and Diego Garcia to support the airlift flow that will be required to deploy and support the RDJTF.

Oman and Egypt are two countries in SWA that have given us access to date. We envision building staging facilities in these countries from which forces can rapidly be moved to forward operating locations. We are requesting \$322 million—\$78.5 in Oman and \$70.4 in Egypt—to support our fiscal year 1982 requirements. Also included is a requirement for \$115 million to construct AF required facilities at Diego Garcia, and \$49.6 million at Lajes.

In Oman we need to construct at three locations at SEEB International Airport, at Masirah Island and Thumrait Airbase in the south. We did some work at Khasab way up north in the 1981 program.

In Egypt at Ras Banas we are asking for funds to beef up the airfield and supporting facilities at this location. You can see Ras Banas on the slide.

At Diego Garcia we are seeking \$115 million to beef up the taxiway shown in red, to construct an apron, construct a hazardous cargo pad, and install some hydrant refueling and improve airfield lighting to keep our options open should a decision be made to support operations out of Diego Garcia.

We are also seeking \$9 million to construct facilities at MacDill Air Force Base, Fla., to house the RDJTF headquarters.

Even though recent articles imply otherwise the requirement for this facility remains valid. The headquarters will be located at MacDill. Elements deployed from there to forward operating locations will deploy out of the headquarters at MacDill. In the new missions and mission realignments area we are requesting \$76.3 million for facility support of mission and/or weapons system changes in the continental United States and overseas. This includes \$23 million for an AWACS alert facility at Tinker Air Force Base, \$19 million for personnel support facilities to accommodate beddown of a TR-1 squadron in RAF Alconbury and the remaining funds for various weapon system support facilities throughout the Conus and overseas.

The sum of \$3.5 million is to provide support construction for the installation of sound suppressors at six installations. The sound suppressors for jet engine runup testing are being purchased with equipment funds.

Our fiscal year 1982 request includes \$24.5 million for flight simulator buildings at seven locations. The projects continue our overall program to improve aircrew proficiency. Simulators augment in-flight training and permit aircrews to practice events which cannot be accomplished in-flight due to safety and flying hour limitations. Facilities in this year's request will house simulators for KC-10, B-52, F-4G, and A-10 aircraft.

This year's program also includes the first of two increments for projects to support an Air Force-wide program to upgrade base level data automation equipment. We are submitting 31 projects for \$30 million at various locations worldwide. The construction program is geared to the computer equipment delivery schedule. Delivery and installation of the replacement equipment is scheduled to commence in 1983.

We are requesting \$40.2 million to accommodate the minimally attended radar (MAR) program. This is the first of two phases to complete the necessary facility support at 12 radar sites in Alaska. The MAR concept involves replacing the existing equipment with a modern surveillance system that can be maintained and operated by a small number of personnel.

Final operational capability of the new radars is scheduled for September 1984.

This year the Air Force requests \$57.6 million to continue upgrading unaccompanied personnel housing facilities. On behalf of the collective leadership of the Air Force, I want to reaffirm our commitment to the improvement of living conditions for our single enlisted personnel. Living and working conditions are key factors in recruiting and retention.

The support of this committee has been truly outstanding in the past few years, and the Air Force is grateful. However, too many enlisted people are still living in substandard facilities throughout the Air Force. I respectfully urge your continued support.

The fiscal year 1982 medical construction program reflects our continuing effort to support the Air Force health care program by improving our facilities to accommodate growth as well as keeping pace with technological advancements in the medical field.

Our \$106.1 million request this year places emphasis on comprehensive care for our people and their families. Included is a project to consolidate and modernize a medical center at Wright-Patterson AFB, Ohio, for \$102.3 million and a \$3.8 million project to eliminate the life safety deficiencies in the hospital at Travis AFB, Calif.

Our energy program this year comes to \$60.2 million. The \$48.1 million energy conservation investment program (ECIP) is the backbone of our effort to reduce overall energy consumption 20 percent by 1985 compared to a 1975 baseline.

Our target is for ECIP to contribute some 12 percent of our targeted reduction with the remaining 8 percent coming from management, operations, and maintenance actions. The fiscal year 1982 program maintains an average energy-to-cost ratio that is 50 percent above the DOD minimum.

We have 30 solar systems operational at 23 locations, 3 more under construction, and 20 under design. There is \$3.6 million of the fiscal year 1982 program devoted to providing additional solar systems at 10 locations.

We are also pursuing the use of geothermal energy. At Williams AFB, Ariz., we are developing, with Department of Energy's help a project to provide geothermal energy for selected facilities.

At McClellan AFB, Calif., we received approval last year for an energy management and control system (EMCS) which will track baseline data on selected facilities, as well as provide energy savings through better energy management. This year we are requesting funds to expand this EMCS as well as upgrade a portion of the base utility distribution system.

Mr. Chairman, we are proud of our energy conservation program and the results to date. We realize that ambitious energy conservation measures are necessary not only to save money but also to reduce our dependence on petroleum resources.

We plan to continue our efforts in the future and look to your support of this program.

The \$6.4 million requested in fiscal year 1982 continues our efforts to provide treatment to meet the more stringent air and water quality standards promulgated by EPA and the States.

This year's program includes \$3.4 million to upgrade the sewage treatment system at Ellsworth AFB, S. Dak., to meet Environmental Protection Agency requirements and \$1.5 million for Wurtsmith AFB, Mich., to provide a permanent aeration system to remove 80 to 90 percent of an identified trichloroethylene contamination of the base water system.

With the increased awareness of the potential hazards associated with the disposal of toxic and hazardous substances, we anticipate future year programs will include funds for such purposes.

Mr. Chairman, by its nature, the environmental protection program must be phased over several years as criteria and standards are developed. Although our budget for these programs has been limited, we have kept pace with the incremental requirements, and we plan to continue our efforts in the future until all Air Force locations are in compliance with the standards currently in effect.

This year's program includes projects totaling \$6.1 million, at three locations specifically to provide safe and healthful workplaces for our employees. The program is based on the long established Air Force commitment to the principles of safety and health in the workplace that was mandated in the Occupational Safety and Health Act of 1970. To this end, we have developed a phased plan for the identification, budgeting, and funding for the correction of all known deficiencies in Air Force workplaces.

Projects we are presenting to the committee today are based on solid engineering and design estimates insofar as possible.

I must admit, however, that because of economic uncertainties at home and overseas, it is becoming increasingly difficult to predict the marketplace regardless of the percentage of design completion. Rest assured, however, that the estimates before you have been developed from the best possible data available to us, and that all but a few projects are at the 35-percent design stage or better. We wish to assure the committee that our goal for all projects is to obligate construction funds in the year appropriated. We are confident we can achieve this goal.

In conclusion, Mr. Chairman, we wish to assure you and your committee that this program represents our best judgment and priority construction requirements within the confines of our budget. Capital investment is proposed only for those installations programed to remain in the inventory.

Mr. Chairman, this concludes my prepared statement. I thank you again for the opportunity to appear before this committee today. If there are any questions about our program we will be pleased to respond as well as provide additional information as you may require.

[Additional questions submitted by Senator Strom Thurmond:]

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

SOLAR

Senator THURMOND. Your request contains many projects which include solar systems. How did you determine which projects would include solar systems and what size the solar system would be?

General WRIGHT. All new facilities were analyzed for appropriate solar energy applications using recognized solar calculation techniques. Those applications found cost-effective are further defined in terms of system size and cost during the preliminary design phase using life cycle cost optimization methodology.

Senator THURMOND. What is your opinion of section 804 of last year's bill as it has been implemented?

General WRIGHT. Our experience with section 804, as amended by Public Law 96-418, is that the prescribed life cycle costing procedures promote the use of solar energy over other investment opportunities by assuming a zero percent discount rate and not accounting for operation and maintenance expense. We consider solar one of many alternate energy forms which should compete on an equal basis for the energy dollars with other recognized energy conservation and recovery techniques.

Senator THURMOND. Provide for the record a copy of your instructions to the field implementing section 804.

General WRIGHT. The instructions to the field implementing section 804 were included in a 17 November 1980 letter titled "General Design Instructions No. 1, Military Construction Programs." An excerpt from that letter pertaining to section 804 is as follows:

(a) Section 804 of Military Construction Authorization Act 1980, Public Law 96-125 requires that all new facilities shall include consideration of solar energy systems in those cases in which solar energy has the potential to save fossil-fuel derived energy. The law also states that projects which prove to be cost effective will be included in the construction contract. Implementation of this requirement will be as follows for fiscal year 1982 and future projects.

(1) Solar application will be reflected on the DI Form 1391 and included as a part of the project PA. Therefore, it is imperative that a determination of whether a solar application meets criteria and a reliable cost estimate be available prior to Congressional submittal. Solar application information should be available NLT 1 Dec.

(2) For projects in fiscal year 1982 and future MCP for which design instructions have been issued, "Blast", "F-Chart" or similar solar analysis will be used by the MAJCOM as the determining factor for considering solar. This same procedure will be utilized when new DIs are issued.

(3) If the status is negative or not cost-effective, a statement to that effect will be provided by the command to the appropriate AFRCE for filing in the project folder and info copy sent to AFESC/DEB. The command statement should follow the prescribed format.

(4) If the analysis is positive or cost-effective, the command will notify AFESC/DEB with info copy to appropriate AFRCE using prescribed format. AFESC/DEB will validate the solar aspects of the project and will notify the AFRCE accordingly with an info copy to HQ USAF/LEEE. Command evaluation and AFESC notification to the AFRCE must be accomplished within two weeks after issuance of a DI.

(5) If validated, solar will then be designed to the 35 percent stage where the solar application will be reevaluated. If not cost-effective, HQ USAF/LEEE and AFESC/DEB will be notified. If cost-effective, the 35 percent solar analysis will be forwarded to AFESC/DEB, who will determine whether to proceed and advise AFRCE. Solar design will then proceed to 100 percent unless the basic project has a design level limit in which case the solar design will also be held at this limit.

(6) All projects with solar application will be designed to be architecturally acceptable if solar is not installed.

(7) For fiscal year 1982 and future, AFRCE will include solar applications that meet criteria in the bid document unless advised otherwise by HQ USAF/LEEE. However, solar applications will continue to be bid as an additive item. Prior to advertisement, HQ USAF/LEEE and AFESC/DEB will be advised of all projects that will include solar.

(8) For fiscal year 1982 and future projects, commands will be making the initial determination to evaluate a project for solar application and performing the evaluation. Therefore, commands must maintain appropriate records of these evaluations. AFRCEs will maintain appropriate records on solar application concerning design and costs.

(9) All new facilities with the potential to save fossil-fuel derived energy require evaluation. We will no longer identify individual projects on design directives for solar evaluation. If a project is approved for A-E design to 35 percent, the AFRCE will enter this in the remarks block of the AF Form 1959 and enter an "S" after the project Category Code. If the 35 percent design proves that solar application is not cost-effective, enter this in the AF Form 1959 remarks block and remove the "S" from the Category Code.

(b) Systems to be Analyzed: Space heating and domestic water heating, space heating only and water heating only. Because of today's state of technology, solar cooling systems should not be considered for facilities with a total air conditioning load of less than 40 tons unless prior approval is obtained from HQ USAF/LEEE.

(c) System Performance Parameters: In making the required analyses, solar systems should be targeted to provide a minimum of 25 percent of the required space heating and 35 percent of the domestic water heating (year-round basis).

(d) Weather Data: Site specific solar radiation and other weather data of the Departments' authorized weather service shall be used in making the required engineering analyses.

(c) Determining Cost Effectiveness: Only the initial cost of the system is to be considered in determining cost effectiveness (exclude any maintenance or replacement cost). Initial costs to be recovered over the expected life of the facility.

ANNUAL ENERGY ESCALATION RATES

[In percent, fiscal years]

	1979-80	1981 through 1983	1984 and beyond
Fuel.....	16	14	8
NG and LPG.....	15	14	8
Electricity.....	15	13	7

(f) Architectural Compatibility. Whether site mounted or building mounted, systems shall be designed to be architecturally compatible with the total environment.

(g) Passive solar will be considered and provided as part of the basic design where applicable.

Senator THURMOND. Do you agree with the life cycle costing procedures for solar systems as promulgated by DOD or do you feel there should be some changes?

General WRIGHT. We are seriously concerned about the life cycle costing procedures of section 804, as adopted by DOD, for the reasons stated in the previous discussion. We believe that solar life cycle cost effective analyses should be realistic to include expected operation and maintenance costs, use reasonable discount factors and energy escalation rates which are appropriate for each specific project.

ENERGY MONITORING AND CONTROL SYSTEMS [EMCS]

Senator THURMOND. Discuss your progress in getting your EMCS projects implemented. Are they yielding the anticipated return?

General WRIGHT. Through fiscal year 1982 we have programed 84 EMCS projects. Of these, 33 are operational and installed using the pre-Tri-Service Specifications. Fourteen of these operational systems were designed as a maintenance management tool, not specifically for energy savings. Nineteen were designed totally or partly for energy savings. There are 37 EMCS under construction of which 34 use the Tri-Service Specifications.

We have been unable to document all energy savings from EMCS due to limited metering on our bases; however, studies were made on three bases to validate the savings. These studies (at Offutt, Luke, and Robins AFB) indicate a savings of 193,000 million BSU compared to an estimated savings of 217,600 million BTU. To provide a broader base and to show the savings at various locations and for different applications, we intend to install some metering devices at seven other Air Force bases. The simple payback for the fiscal year 1982 EMCS program is calculated at 3.2 years.

GENERAL

Senator THURMOND. Review your progress in the areas of: (a) Conversion of power plants to coal, (b) Use of refuse derived fuel, (c) Use of geothermal power, (d) Use of biomass fuel.

General WRIGHT. Coal Conversion: In fiscal year 1979, a new central heating plant was approved for F. E. Warren AFB, Wyoming. This plant is scheduled for completion this summer. In fiscal year 1981 conversion of three boilers to coal at Fairchild AFB, Washington and the installation of a 100 million BTU fluidized bed combustion boiler at Arnold AFS, Tennessee was approved. The construction contract has been awarded at Fairchild AFB and the design at Arnold AFS will be completed this summer. We are currently developing the fiscal year 1983 program.

Refuse Derived Fuel: Wright-Patterson AFB, Ohio is burning 6500 tons of refuse derived fuel (RDF) annually. The pelletized RDF is mixed with coal in a 50/50 mix by volume. This demonstration burn is now being evaluated. The

data obtained will be used to develop future operations and maintenance manuals and procedures, construction specifications, and handling procedures for Air Force use of RDF in new and converted heating and power systems.

Our progress in geothermal has been limited to numerous geothermal assessments, engineering feasibility studies, and in one instance, actual field drilling.

At Hill AFB, Utah, the Department of Energy (DOE) drilled two shallow test holes which did not indicate hot subsurface waters. The project was cancelled due to poor economics of deeper drilling. DOE and the State of Arizona also performed a detailed feasibility study on Williams AFB, Arizona. The study confirmed the potential for either a geothermally produced electric power or a central cooling plant. Our plans are now to develop the resource jointly with private industry. However the plans are under review since DOE has withdrawn drilling incentive funds.

Biomass Fuel: We consider biomass as a fuel in all Air Force heat plant projects. To date, a source of biomass has not been readily available in the areas where we have designed heat plants.

Mr. SMITH. Senator Thurmond is expected back momentarily. He will have some questions. Until that time the subcommittee will stand in recess.

[A brief recess was taken.]

STATEMENT OF HON. JOHN MELCHER, A U.S. SENATOR FROM THE STATE OF MONTANA

Senator MELCHER. Mr. Chairman, little more than a year ago I spoke before this subcommittee on behalf of a coal-fired plant for Malmstrom Air Force Base in Great Falls, Mont. This is and has been a project endorsed by the Air Force. The reasons for authorizing it this year are compelling.

Current heating facilities at Malmstrom are gas fired. The same gas that cost \$1.35/MCF in 1976 cost \$3.21/MCF in 1980. It isn't coming down and it won't. Beyond the price of fuel is the cost of maintenance. The most recent figures show it will cost \$4.4 million annually to operate the existing gas-fired units at Malmstrom. The cost of operating the coal plant is \$1.6 million. Savings and efficiency are solid arguments for authorizing construction of the coal-fired heating plant in fiscal year 1982.

The point has been made to me before that all this savings in fuel won't mean a thing if there is not regular and reliable access to the coal itself. Early this year that issue was laid to rest when the Montana Power Co. announced that it will build a coal-fired 350,000 kilowatt generating plant just 8 miles east of the city of Great Falls. The fact is, with Montana's abundant coal reserves, there is excellent access to fuel right now. But the Montana Power installation will mean a weekly train of coal into the Great Falls area. That means an economically effective, uninterrupted supply of fuel for both the powerplant and for Malmstrom.

This project was originally requested by the Air Force for fiscal year 1981. The pluses—lower cost and efficiency—argue against further slippage at Malmstrom. But there are additional reasons for starting now. I have told this subcommittee before about the problems engineers face at Malmstrom. One of the largest of the base's gas-fired heating plants, which serves four hangars, the commissary, and other buildings, was built about 1940 as a coal-fired heating plant.

Later it was converted to natural gas and has undergone several rehabilitations. However, today this plant is in extremely bad condition. Recent inspections have shown that not only the boiler needs replacement, but the brick foundation and retaining walls have shifted, causing a dangerous situation. Simple repairs are no longer sufficient to insure the safe operation of this plant, and a major reconstruction is required. Similar problems are showing up in the base's other heating plants. Also, the base heating system's miles of gas lines are rapidly deteriorating as well as requiring increased maintenance or replacement over the next few years.

The longer this coal conversion effort is put off the more it will cost, and the greater the danger of significant trouble in the outdated equipment. I hope the committee will agree and authorize the project in the fiscal year 1982 budget.

There is another topic I want to raise today. Last year, the military construction authorization bill included \$750,000 for a small arms firing range for Malmstrom Air Force Base. That was followed shortly thereafter by congressional approval of \$740,000 for the facility. There it stood. Authorization. Appropriation. But no construction.

According to the Military Construction Appropriations Subcommittee and the Department of the Air Force, there will not be construction for a while. They tell me that the firing range is just one of \$242 million worth of projects that have been authorized and appropriated but for which there are no funds. I am told the Air Force needs \$400 million in reprogrammed funds to take care of cost overruns on the space shuttle. What that means is deserving, legitimate programs have evaporated in the smoking wake of Columbia.

That is questionable behavior. If more money was needed for the shuttle, it could have been taken care of in a supplemental. How poorly are things planned that accounting acrobatics must put the shuttle in orbit while military training needs are left behind in the ashes of the launching pad.

I have no quarrel with the space shuttle. However, I strenuously object to an appropriations shuttle, that moves funds from one account to another without regard to the will of the Congress. This reprogramming was unnecessary and will very likely result in extra costs for each of the programs already authorized. I hope this committee will not only look favorably upon the Malmstrom heating plant, but keep an even more intense eye on how well the expressed will of congressional majorities is converted into action.

I hope that we can have some answers. Can I be enlightened on either points by you General Wright?

General WRIGHT. As I testified last year on the Air Force energy program, and we talked about the heating plant at Malmstrom, again we were unsuccessful in moving this program through the fiscal year 1982 process. It continues to remain the Air Force's premier heating plant project. We continue to try to get the program submitted through the Defense Department over to the Congress. We will work it again very hard in the fiscal year 1983 subcommission.

I am very much aware of the condition of the existing heating plant at Malmstrom. It takes a great deal of operations and maintenance

money to keep it running. It also obviously, as you state, is more expensive to operate than it would be if we could convert to coal.

The project, sir, that you addressed on the firing range project, sir, is, as you indicated, on a deferred list of Air Force projects. We hope to have that list cleared in the 1982 program and be able to proceed with many projects that had to be deferred in order to fund overruns in the shuttle program and to cover other shortfalls. The decision was made in the Defense Department that since the shuttle is a national priority program, that emphasis would be put on funding that effort to get on with construction at the launch complex at Vandenberg Air Force Base.

Senator MELCHER. It is a little bit unclear to me. Is it in the budget or not? These things that we have already authorized and appropriated funds for, are they in the 1982 budget now?

General WRIGHT. The firing range?

Senator MELCHER. Yes.

General WRIGHT. It is in the 1982 DOD appropriations submission to the Congress. It is on a shortfall list that was provided to the Congress. We are asking, as stated earlier, for \$242 million to cover a large number of projects that we have been unable to fund over the last couple of years. This picks up projects in the fiscal year 1979 through 1981 program that we have been unable to fund. It is on that list. As soon as we are able to get an appropriation this year, hopefully that appropriation being the \$242 million we have been seeking, I am sure that project will be designed and prepared to move out.

I understand that it is not designed yet but design is under way.

Senator MELCHER. In what time frame would the design be ready?

General WRIGHT. Sir, I will have to provide that for the record.

[The information follows:]

Design will be complete and project ready for advertisement Aug 30, 1981.

[Additional question submitted by Senator Strom Thurmond, to be answered for the record:]

QUESTION SUBMITTED BY SENATOR STROM THURMOND

Senator THURMOND. Is every project in your request under design? (If not, provide a list of those projects not under design, give the design start and completion dates, and explain the delay.)

General WRIGHT. The following projects are not under design; all are late starters under the fiscal year 1982 MCP Amendment: However, all will be placed under contract in fiscal year 1982.

Installation and project	PA (thousands)	Design start	Design completion
Pentagon: NMCC—Electrical power upgrade.....	\$3,000	September 1981.....	June 1982.
NORAD: Electrical power imp.....	11,000	do.....	Do.
Various locations—Turkey: Personnel support facilities....	4,000	June 1981.....	April 1982.
Various locations—USAFE:			
Minimum essential facility (OBS).....	24,000	July 1981.....	May 1982.
TR-1 beddown.....	19,000	do.....	Do.
Move Red Horse Squadron.....	4,000	June 1981.....	December 1981.

Mr. SMITH. Senator Melcher, I think it is important that the record indicate that the \$240 million which General Wright mentioned is a matter before the Appropriations Committees. The authorization for

the project which was granted in last year's bill still remains and the authorization is good for 2 years and if the project is designed and appropriations are received in the 1982 budget they will be in a position to proceed with the project.

[Additional information follows:]

Question. Last year, you reported that your construction backlog was growing in constant dollar terms. Update your charts and discussions from last year's testimony.

Answer. The military construction backlog has varied over the past eight years from about \$6.9 billion to \$29.0 billion in fiscal year 1981. The large surge in backlog from 1980 to 1981 was due to a \$21.6 billion backlog for MX construction. This year the MX backlog figure was reduced to \$19 million and the remaining facility backlog adjusted to \$8.4 billion. The military construction backlog, as reported below, reflects the funds needed to replace and modernize obsolete facilities, alleviate space shortages and support new mission requirements.

Fiscal year	Backlog in current fiscal year dollars	Backlog in constant 1981 dollars
1974	6.9	11.6
1975	6.9	10.0
1976	7.0	10.0
1977	5.5	7.7
1978	5.6	7.3
1979	9.1	10.0
1980	9.7	10.0
1981	29.0	29.0
1982	27.4	25.5

Question. Similarly update your testimony and charts from last year's transcript regarding construction expenditures.

Answer. The Air Force annual authorizations, adjusted for ICBM and space related major construction, have been primarily in the \$500 to \$800 million range in constant 1981 dollars. While this level has provided minimum support for new weapons systems, research and development and some support construction, it has not been adequate to reduce the facilities backlog. The history follows:

AIR FORCE AUTHORIZATIONS, FISCAL YEARS 1963-81

[In millions]

Fiscal year	Current dollars ¹	1981 Constant dollars ¹
1963	² (536) 743	² (1,763) 2,444
1964	² (183) 488	² (594) 1,584
1965	² (93) 303	² (293) 956
1966	² (49) 334	² (149) 1,018
1967	² (56) 198	² (165) 582
1968	² (19) 422	² (53) 1,185
1969	² (24) 210	² (63) 550
1970	² (6) 269	² (15) 650
1971	256	568
1972	247	514
1973	284	557
1974	260	448
1975	391	567
1976	485	693
1977	³ (437) 736	³ (616) 1,037
1978	421	549
1979	^{2,4} (227) 604	^{2,4} (270) 718
1980	² (140) 543	² (153) 592
1981	² (114) 716	² (114) 716

¹ Figures reflect authorization levels.

² ICBM, space launch and MX construction.

³ Aero propulsion system test facility.

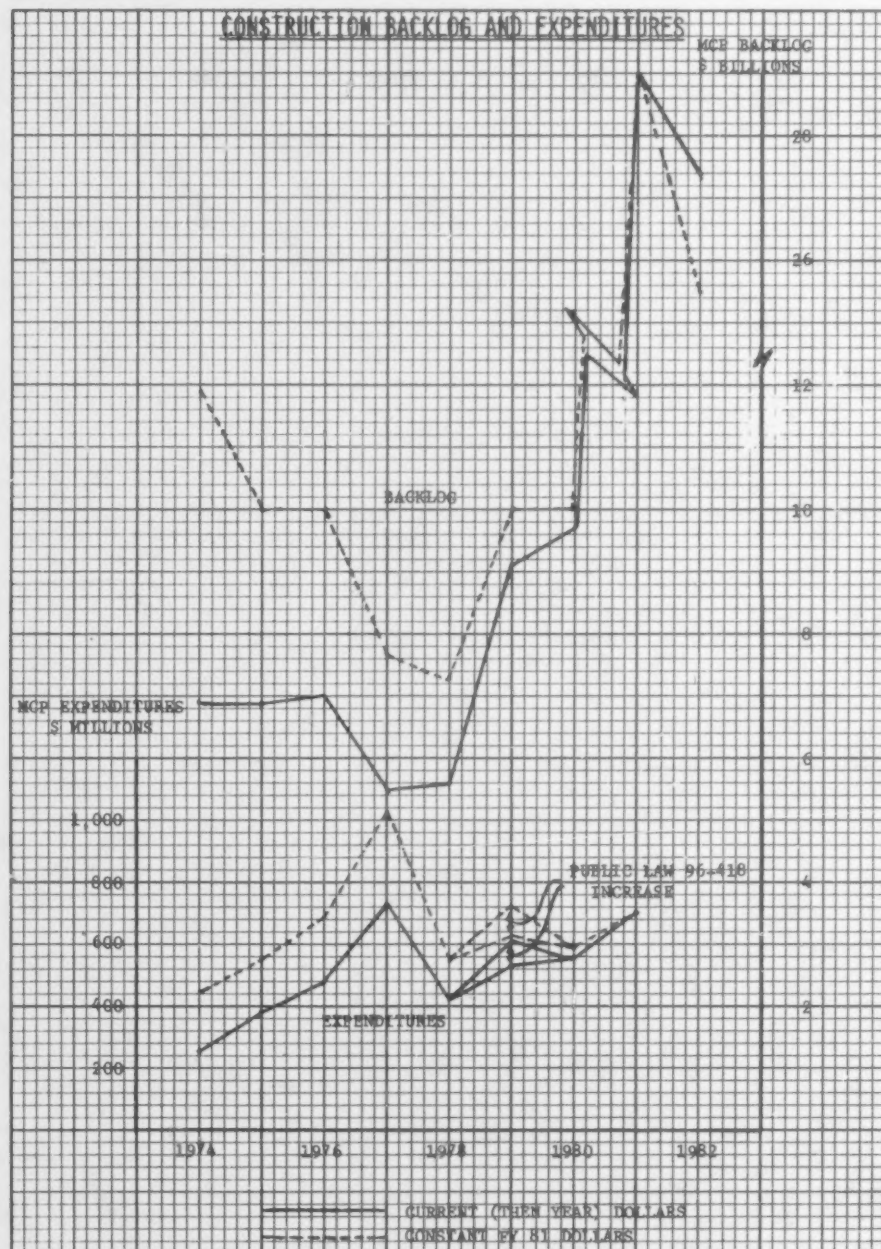
⁴ Fiscal year 1979 figure reflects increased authorization due to Space Shuttle.

Question. Provide a graph showing construction backlog and construction expenditures, both in constant and then-year dollars, identifying and discussing any anomalies.

Answer. Major anomalies are footnoted on the graph and described below.

(1) As shown on the construction expenditures chart, the fiscal year 1977 surge was due to the \$437M authorization for the Aeropropulsion System Test Facility at Arnold Engineering Development Center, Tenn.

(2) In fiscal year 1977-78 there was a DOD emphasis to reduce the backlog. As a result, the backlog was revised to include only figures from the Five Year Defense Plan (FYDP). In fiscal year 1979 the FYDP figures were determined as not being representative of our true backlog. Since then, the Air Force has reported its total backlog.



(3) The large surge in backlog from 1980 to 1981 was due to a \$21.6 billion backlog for MX construction. The MX backlog has since been reevaluated at \$19.0 billion.

(4) The fiscal year 1979 MCP authorization was increased in Public Law 96-418 to compensate for Space Shuttle cost growth.

Senator MELCHER. It would be in the regular appropriation bill?

Mr. SMITH. Yes, sir, in the fiscal year 1982 military construction appropriation bill there is a request for shortfall funding which will permit them to proceed with this project.

Senator MELCHER. If the design were completed it would mean almost starting promptly after the appropriation bill is enacted into law.

General WRIGHT. Yes, sir, if we are provided appropriations to cover the \$242 million shortfall.

Mr. SMITH. A start could begin after the first of the fiscal year 1982.

General WRIGHT. At Malmstrom there is a construction season. I don't know with this type of project if we would be able to get under way in the fall season because it is an outdoor type project and sometimes we have to shut down, as you are well aware, during the winter season with construction in the Malmstrom area.

Senator MELCHER. Yes, and that could quite likely be the case this year because it has to wait until the appropriation bill is passed and then the fiscal year has started. It will be October 1. I would be concerned also that the plans be designed and near completion so that the Air Force can proceed immediately when weather conditions permit.

Now, general, if I understand you correctly as far as conversion of the heating system for the base, the Air Force has recommended it.

General WRIGHT. Yes, sir. That is our highest priority conversion project and it has been for 2 years. It is so big, now estimated at about \$51 million, that it is just difficult to push through the system. However, we very much want to accomplish that project.

Senator MELCHER. Just so that I understand the system, you go to the Defense Department. Is that your next step after the Air Force sets it as a priority?

General WRIGHT. Yes, sir, within the air staff, the Department of the Air Force, we have a procedure that we go through where the entire MCP is formulated as part of the total Air Force budget. Then the military construction portion of that program is broken out and submitted as a second package through the Secretary of the Air Force to the Department of Defense and OMB and over to the Congress.

So, we have several steps along the way where our program receives very strenuous review.

Senator MELCHER. There are a lot of pitfalls along that way too.

General WRIGHT. Yes, sir. May I go off the record?

Senator MELCHER. Yes.

[Discussion off the record.]

[Additional information follows:]

Senator THURMOND. What rates of inflation have you used in estimating the costs of projects in your request? Provide an example showing how inflation is factored into your estimates.

General WRIGHT. Each year OMB/OSD issues program guidance for escalation factors to be used in the MCP. The Reagan OMB/OSD escalation factor for the

fiscal year 1982 MCP is 6.8 percent for calendar year 1981 and 7.2 percent for calendar year 1982.

Example: Assume a project has a base PA of \$1 million as of January 1981. For a fiscal year 1982 PA the base PA is inflated to the midpoint of construction. Assume for this example a midpoint of October 1982. Therefore, the fiscal year 1982 PA would be \$1 million times 6.8 percent for fiscal year 1981 and then times ten-twelfths of 7.2 percent for January-October fiscal year 1982 for a total of \$1.13 million.

$$(\$1 \text{ mil} \times 1.068) \times (10 \div 12 (1.072)) = \$1.13 \text{ mil.}$$

Senator THURMOND. Senator Baucus, do you wish to make a statement?

**STATEMENT OF THE HON. MAX S. BAUCUS, A U.S. SENATOR
FROM THE STATE OF MONTANA**

Senator BAUCUS. Yes, Mr. Chairman.

Senator THURMOND. Do you have a written statement?

Senator BAUCUS. Yes.

Senator THURMOND. We will put your statement in the record.

[The prepared statement of Senator Baucus follows:]

PREPARED STATEMENT OF SENATOR MAX BAUCUS

COAL-FIRED HEATING PLANT AT MALMSTROM AIR FORCE BASE

I want to thank Senators Tower, Stennis, and Thurmond, and the other members of the Senate Armed Services Committee for giving me this opportunity to provide testimony regarding the 1982 construction budget and the need for providing Malmstrom Air Force Base with a coal-fired heating plant.

I believe most of the members of the Committee are probably reasonably well-acquainted with this project, but I did want to stress how important it is to the community of Great Falls.

In fact, it is so important that the local community has formed a "Committee of the 80's" for the sole purpose of assuring the continuity of that air base, and keeping it as an integral part of our defense establishment.

The base is vital to the economy of Great Falls and here we have citizens who on their own have raised thousands of dollars, contributions from a wide sector of the population, to try to keep the base a viable part of the city and of our national defense.

Indeed, it is my great pleasure to use this opportunity to submit to the Senate Armed Services Committee testimony that was prepared by the Chairman and Vice Chairman of the Committee of the 1980's regarding the need for the coal-fired heating plant.

Obviously, Malmstrom will continue to function without such expenditure of funds. However, the heating plant has become symbolic of the commitment of the Air Force to a viable defense posture in Montana and along the Northern Tier.

To ignore the need for a modernized heating plant at Malmstrom is to ignore the fact that our Northern Tier is an important security border and that we must be prepared to defend ourselves in cold as well as warm weather.

Malmstrom must remain a viable entity in our defense structure and it can only do so by constant modernization. If the facilities are not modernized, in time it will be easier to simply close up the base. And that would be deeply injurious to our national defense.

It would also be disastrous for the Great Falls community. The Air Force must show that it is committed to our Northern Tier and that it recognizes the important role it continues to play in Montana.

The heating plant has been in one budget after another and it is constantly being slipped back by the Air Force in favor of other projects.

I maintain that this is an important priority. We must have a modern and efficient defense establishment along our Northern Border. The commitment to that border must be long term and the plants and facilities we have to service that area must be modern.

Mr. Chairman, the amount is not that great when considered within the context of military budgets and I hope the Committee will find a way to assure the funding for this important construction project in its budget for fiscal year 1982.

If I can provide any further information, I'd be glad to do so, and I know that the leaders of the Great Falls Committee of the 1980s will be more than happy to answer any questions you might wish to ask of them.

I thank you for this opportunity to testify.

[Additional information follows:]

GREAT FALLS AREA CHAMBER OF COMMERCE,
Great Falls, Mont., April 17, 1981.

Senator MAX BAUCUS,
Dirksen Office Building, Washington, D.C.

DEAR MAX: As you requested in your letter of April 7th, enclosed is testimony regarding the Coal-Fired Heating Plant at Malmstrom Air Force Base.

Sincerely,

ROGER W. YOUNG,
Executive Vice President.

[Enclosure.]

COMMENTS OF THE COMMITTEE OF THE EIGHTIES—GREAT FALLS AREA CHAMBER OF COMMERCE

INTRODUCTION

The Committee of the Eighties is a division of the Great Falls Area Chamber of Commerce (a non-profit Montana corporation) organized in December 1979 to support the mission of Malmstrom Air Force Base and to further our Nation's defense posture. The division currently is comprised of a select group of sixty-one civic leaders and prominent citizens.

Great Falls is the major city of a five-county agricultural region of Montana commonly referred to as the "Golden Triangle". With a Standard Metropolitan Statistical Area population of 80,696, it is the second-largest city in the state, providing retail, wholesome, manufacturing, education, health and financial services to nearly 250,000 people.

One of the primary employers is Malmstrom Air Force Base, the nerve center of the Nation's first Minuteman Missile Defense Complex. A Strategic Air Command installation, it currently also houses units of the North American Air Defense Command, although those units will soon close in a consolidation program. Great Falls is also the headquarters of the Montana Air National Guard and the 120th Fighter Interceptor Group.

MALMSTROM'S FUTURE

Every indication is that the missile wing at Malmstrom will remain a vital part of the Nations defense deterrent in the 1990's. The same excellent climatic and geographic benefits which made the facility homebase for flying missions in the past offer great potential for future flying missions. We have good reason to believe that the Strategic Air Command is contemplating a flying-training mission in the immediate future. The long term future of Malmstrom AFB as a viable part of the Nations defense community appeared assured and it is therefore incumbent on all to insure the maintenance of this installation's plant and equipment.

In the mid-1970's a decision was made to convert Malmstrom Air Force Base's central heating plant and numerous individual units to a central coal-fired heating plant. The design for such a plant is in the Air Force's Fiscal Year 1983 Military Construction Program.

The Committee of the Eighties wholeheartedly endorses this project. Furthermore, we urge that the Congress advance the timetable for construction to include it in the fiscal year 1982 Military Construction Program.

CURRENT FACILITIES OLD AND OBSOLETE

The decision to build a new heating system is one of sound economics. The project will replace 66 existing natural gas-fired heating plants supporting 88 base buildings. Many of these existing boilers are very old and obsolete. For example,

the boiler at Wing Headquarters is of 1923 vintage and was installed at Malmstrom Air Force Base in 1942. Several other are nearly thirty years old; very few are less than twenty years old.

It is also our understanding that most of the natural gas service lines are coated steel pipe and have been in service since 1951 and will probably need replacement within the next four years.

Replacement of these service lines and boilers is necessary in order to prevent a potentially hazardous situation.

CONVERSION TO COAL NECESSITATED

When the decision to convert to coal was made, there was a shortage of natural gas; the industrial part of the base was on an interruptible gas supply. In order to insure the continued operation of the base, the Air Force needed to convert to coal which was regarded as a more reliable fuel.

Requirements of Public Law 95-620, Powerplant and Industrial Fuel Use Act of 1979 and Section 808 of Public Law 96-418, Military Construction Authorization Act, 1981, require the Air Force to burn coal in any new boiler over 50 million BTU's. The Malmstrom AFB plant will have three 85 million BTU boilers.

When operational, the Malmstrom AFB central plant will have the capability to store a 180-day supply of coal to limit any possible impact of strikes and fuel transportation problems.

ECONOMIC BENEFITS

The estimated cost of this project, as currently designed, is \$41 million. Although the first and foremost benefit of this project is that the expenditure will contribute to national security and national defense, a project of this size will also have important economic consequences for a depressed local economy.

In early 1979 the Department of Defense announced that 900 military and 50 civilian positions would be transferred from Malmstrom AFB. The transfer involved two units of approximately equal size. The 17th Defense Evaluation Squadron vacated Malmstrom in October 1979; the transfer of the 24th North American Air Defense Region/Air Division is to be completed in 1982.

Late in September 1980 the Anaconda Copper Company stunned the residents of Montana by announcing the closure of its copper smelter in Anaconda and its copper refinery in Great Falls. The loss of jobs was substantial for both communities; in Great Falls 554 jobs were lost.

The community then, has an immediate need to replace 1,505 lost primary jobs (fully 15 percent of the city's primary economy). Over the years the city and surrounding area have declined in population and economic vitality because of similar primary industrial losses: a meat packing plant, a railroad car shop and engine maintenance facility, a brewery and malt plant, a zinc refinery, an aluminum wire mill, and a copper rod mill. These jobs have never been replaced. At present Malmstrom Air Force Base, with approximately 5,000 military and civilian personnel, makes up at least half the city's economic base.

It is therefore obvious that construction of this heating plant at Malmstrom would be most beneficial to the economy.

SOUND GOVERNMENT INVESTMENT

Using Air Force estimates on the cost to properly operate and maintain the existing equipment, combined with Department of Energy fuel costs and operation/maintenance cost for a coal plant, the Malmstrom AFB project has a 13.6 year simple payback which is well within the projected 30-year life of the plant. As a group of businessmen, the Committee of the Eighties, under those circumstances, views this as a sound economic investment for the Government and the Department of Defense.

This view is shared by the Board of Directors of the Chamber of Commerce, the City and County Commissioners, and, we believe, most Great Falls citizens.

RECOMMENDATION

The Committee of the Eighties of the Great Falls Area Chamber of Commerce, therefore, respectfully concludes that the Senate Armed Services Committee would be well advised, in the interests of national defense and sound economics, that the Malmstrom AFB Coal-Fired Heating Plant Project be funded and its construction schedule advanced.

Senator BAUCUS. Thank you, Mr. Chairman.

I am here simply because I believe that the Defense Department will very shortly recommend wisely the construction of a coal-fired power-plant at Malmstrom Air Force Base in Montana. My hope is and my strong urgent fervent wish is that the recommendation be that it be in this coming fiscal year 1982, not in a later fiscal year.

Very simply that is because we all know that the Department of Defense is going to recommend construction and if we delay it another year the cost of that construction will be much greater than if it is included in this fiscal year's budget.

Second, Mr. Chairman, I think for too long we have neglected the northern bases in the continental United States. We have, I think, a fairly good national security presence in Alaska, but basically in the continental United States, particularly among the northern tier States, we have neglected this establishment and my strong wish is that we begin now to make up for last year and particularly again the construction of the coal-fired plant in fiscal year 1982.

Senator THURMOND. Thank you, Senator Baucus. I have a few questions that I would like to propound. You have a request in your fiscal year 1982 bill for the first increment of MX construction funding, I believe. How much is this request?

General WRIGHT. Mr. Chairman, we are asking for \$366 million in the military construction program for construction to support the MX program. This does not include design.

Senator THURMOND. The amount is how much, sir?

General WRIGHT. \$366 million.

Senator THURMOND. What is the total construction cost of the MX system based on the basing mode approved by President Carter? If you would like, you may provide the details for the record.

General WRIGHT. Sir, in 1980 dollars the total estimated construction cost is about \$19 billion.

Senator THURMOND. \$19 billion?

General WRIGHT. Yes, sir.

[Additional information follows:]

MX CONSTRUCTION FACILITIES

Our current estimate for design and construction of MX facilities (expressed in fiscal year 1980 constant dollars) is as follows:

Fiscal year:	Millions
1980	\$56
1981	112
1982	406
1983	1,350
1984	1,850
1985	2,255
1986	2,335
1987	1,750
1988	595
1989	355
Total	11,064

If these fiscal year 1980 constant dollars estimates were escalated to the projected years of construction using escalation rates directed by the previous administration, the total "Then Year" cost would be about \$19 billion. As you know, these rates have recently been changed. We are currently developing new funding profile using these revised escalation rates and a differing application of the Davis-Bacon Act.

Senator THURMOND. The entire question of MX basing of course is being reviewed by the Townes Commission now. They are to report to Secretary Weinberger in June 1981. I am concerned that we are considering a large request for construction funds when the basing mode has not been decided. Will you need these funds if there are significant changes in the MX basing mode?

General WRIGHT. Sir, of the funds that we are seeking in fiscal year 1982, we would not need all of these dollars if there were change in the basing mode.

We would still need some of them.

Senator THURMOND. How are you proceeding to design MX facilities when the basing mode has not been decided?

General WRIGHT. Sir, we are proceeding with nonsite specific design at four candidate locations. We will not proceed with site specific design outside the language authorized by the Congress until the environmental impact statement process is finished.

Let me ask General McCarthy from the MX office to talk to that, sir.
Senator THURMOND. Go ahead, General.

STATEMENT OF BRIG. GEN. JAMES P. MCCARTHY, SPECIAL ASSISTANT FOR MX MATTERS, U.S. AIR FORCE

General MCCARTHY. Mr. Chairman, while the new administration has formed a committee to review the existing basing mode and the MX missile program, it has also required us to proceed with all deliberate necessity to meet the congressional direction for a land based ICBM system with an initial operational capability in 1986. On the one hand, we are studying the issue with the Townes committee. On the other hand we are proceeding with those actions necessary to deploy the planned basing mode. However, the administration has directed that we do so with prudence. That is to insure that contracts that are not required to keep the program integration together would be deferred and those actions that are taken contingent upon the Townes committee recommendation have adequate protection in them in the event that they would need to be terminated.

Senator THURMOND. How much money have you obligated for design of MX facilities?

General WRIGHT. Sir, to date we have obligated somewhere in the neighborhood of \$8 million.

Senator THURMOND. How much of your request for fiscal year 1982 is for impact assistance?

General WRIGHT. Sir; \$10 million of the \$156.3 million for planning and design is for impact assistance planning and for access roads planning.

Senator THURMOND. Do you see a need for impact assistance funding in 1982?

General WRIGHT. Sir, we are not really sure of the requirement for facility construction impact assistance. That process is ongoing. We are currently working with the States and with the Office of Economic Adjustment to determine the need during fiscal year 1982.

Senator THURMOND. Where do you stand on the environmental impact statement process?

General WRIGHT. Sir, the public hearings have been wrapped up in the proposed deployment areas. We hope to have a final environmental impact statement available in July of this year.

Senator THURMOND. Would you discuss the split basing option and where does that issue stand?

General WRIGHT. Sir, I will let General McCarthy talk to that.

General McCARTHY. We submitted, Mr. Chairman, to the Congress a split basing study. The results of that study basically are that there is no overriding advantage or disadvantage to split basing but the added cost for split basing operation, primarily due to duplication of facility costs, is approximately \$3.5 billion in 1980 dollars.

Senator THURMOND. As I understand your original plans you intend to base all 200 MX missiles in the Great Basin area of Nevada and Utah. Is that correct?

General McCARTHY. Yes, sir, that is correct, Mr. Chairman.

Senator THURMOND. You also had plans to build two support bases, one in Nevada and one in Utah?

General McCARTHY. Yes, sir. The Air Force proposed action would put the first main operating base at Coyote Spring in Nevada 40 miles northwest of Las Vegas, and the second operating base would be at Milford, Utah.

Senator THURMOND. If you end up deploying all MX missiles in the Great Basin area, why can't you service them with a single support base and save the cost of construction of the second base?

General McCARTHY. Mr. Chairman, there are a number of reasons why we would propose two main operating bases. One of them is the operations cost because of the size of the system. If you in turn build one main operating base you have to build additional area support centers. Then you do not have the advantages of two main operating bases but you have near the same cost in the construction.

Second, you have your entire system dependent upon one main operating base so that natural disasters or other things that could affect the operational capability of that system would be primarily in one location. I am talking about peacetime operation. The inconvenience to the people who live and operate the system would be another factor. That is, the travel times, the vast operating areas that would have to be covered from a single base would be time consuming and require additional people.

Those are the fundamental reasons. There are other reasons that I can provide for the record if you so desire.

[Additional information follows:]

The basic reason a decision to deploy two bases was made was due to span of control considerations and a desire to mitigate the socio-economic impacts associated with the increased population and activity. More efficient supervision can be developed with two bases as considerably less people are assigned at each. Travel distances are reduced leading to increased missile alert availability and increased morale. In addition, a smaller number of remote alert areas are required with two bases. It was determined that the additional cost of two bases (\$350 million, fiscal year 1980 dollars) is minimal when the potential payoffs in management and morale are considered, and the more equitable distribution of positive and negative impacts are identified.

Senator THURMOND. When you start this construction it will represent one of the largest construction projects ever undertaken, as you

know. Would you provide for the record a discussion of the scope of this effort compared to other major construction tasks such as the Panama Canal and Alaska pipeline that the United States has undertaken?

General McCARTHY. Yes, sir.

Senator THURMOND. Also include some discussion of how you intend to manage this effort.

[Additional information follows:]

Without question, the MX construction project will be a large one. However, it will be significantly smaller than other major projects such as the Panama Canal and the Alaska Pipeline—and much smaller than the effort required to construct the Interstate Highway System. For example, the manpower required during the peak MX construction activity in 1986 will be about half the peak manpower involved in Panama Canal construction and about 80 percent of that required to construct the Alaska Pipeline. Although cement requirements of MX are slightly larger than those of the Panama Canal, the MX steel requirements are only about 70 percent the amount of steel used to build the Alaska Pipeline. Finally, with respect to the amount of earth to be moved and cement to be used, the MX construction will represent less than 5 percent of the level of effort required to construct the Interstate Highway System.

We recognize the significance of the magnitude of the MX construction effort and have many activities underway to effectively manage it. A specific Air Force civil engineering management office, the Air Force Regional Civil Engineer-MX, has recently been established at Norton AFB to directly manage all respects of MX facility planning, design and construction as well as MX related environmental and withdrawal activities.

Collocated with the AFRC-E-MX, is a MX dedicated Corps of Engineers office which will serve as the design and construction agency for the bulk of the MX construction effort. Both organizations are currently being manned. An official Memorandum of Understanding has been established between the two organizations. Further, we are developing a Management Information System which will be used to effectively manage the various data required by this program. Also, we are analyzing previous large construction efforts for "lessons learned" and attempting proper application to the MX construction program.

Senator THURMOND. Now would you review your plans for stationing the ground launched cruise missile in NATO?

General WRIGHT. Yes, sir, before I talk to the ground launched cruise missile, Mr. Chairman, I would like to correct a statement I made earlier when you asked about the total cost of the system. I gave you a figure of \$19 billion in fiscal year 1980 dollars. I would like to correct that figure. In fiscal year 1980 dollars the figure is \$11 billion. If we take that figure out to then year dollars or the cost of construction in the future, we estimate it to be about \$19 billion.

Senator THURMOND. Thank you.

Now would you review your plans for stationing the ground launched cruise missile in NATO?

General WRIGHT. Yes, sir, I would like to call on Mr. Wanlass.

Mr. WANLASS. I am sorry, sir, I did not get the question.

Senator THURMOND. Review your plans for stationing the ground launched cruise missile, GLCM, in NATO.

Mr. WANLASS. Sir, the NATO countries in December of 1979 agreed to the deployment of the GLCM system in five countries in Europe. The first deployment will be in the United Kingdom with initial operational capability in December of 1983. The other four countries would follow in short order after that.

Senator THURMOND. Have you listed those?

Mr. WANLASS. Yes, sir. They are Italy, Germany, Belgium, and the Netherlands.

Senator THURMOND. I want to caution all of you that we are still in open session and any time anything is classified you must not answer it in open session.

Now would you discuss the funding for this program, how much will be U.S. funded, how much will be funded through the NATO Infrastructure program? If you would provide for the record a detailed site-by-site cost breakdown by fiscal year showing funding source.

Mr. WANLASS. Yes, sir, we can provide that.

[The information follows:]

Funding for the GLCM system will be provided by two sources. The operational facilities will be funded by the NATO infrastructure program. We estimate the NATO cost at about \$382M. The support facilities such as dormitories, dining halls and clinics are a national responsibility and are funded by the military construction program. We anticipate MILCON costs of about \$392 million. The site by site costs by fiscal year and fund source are as follows:

[Deleted.]

Senator THURMOND. How much is in your fiscal year 1982 request for GLCM deployment and at which sites?

General WRIGHT. Sir, I can answer that.

In fiscal year 1982 we are asking for \$69 million at two locations, the first being RAF Greham Common in the United Kingdom and the other location is in Italy and that is a classified location, sir.

Senator THURMOND. The deployment of GLCM appears to me to be unreasonably expensive. At the first two locations you have to practically build an entirely new base, especially in Italy, don't you?

General WRIGHT. Yes, sir. In Italy we are starting from a bare base. In the United Kingdom we are essentially rehabilitating and upgrading existing buildings.

Senator THURMOND. Would it not be significantly cheaper to deploy GLCM at an active base?

General WRIGHT. It would, sir, if the host country would make an active base available. In the United Kingdom our active U.S. bases which are essentially RAF bases are overloaded now. RAF Greenham Common is a standby base that the U.S. Air Force has kept well maintained and in a state of readiness over the years. This added mission however does bring in a significant number of people to operate the system, thus driving the requirement for the \$12.6 million.

Senator THURMOND. What would be the estimated cost to deploy the GLCM at Aviano Air Force Base rather than a selected site in Italy?

General WRIGHT. I will have to provide that for the record.

[The information follows:]

The cost to deploy to Aviano would approach \$100 million. This cost is driven by the fact that existing facilities are already used to capacity and considerable new construction would be required. There would be some savings by going to that existing base as functions such as the exchange and commissary could be expanded rather than be built from scratch. Aviano is not a viable candidate however because of operational considerations.

[Deleted.] While some dollar savings would be realized at Aviano, it is just not a viable operational option.

Senator THURMOND. How much is in your request for Diego Garcia for fiscal year 1982?

General WRIGHT. \$115 million, Mr. Chairman.

Senator THURMOND. What is the total Air Force construction cost to upgrade Diego Garcia?

General WRIGHT. \$186 million is our current estimate.

Senator THURMOND. What specific capability are you seeking to add for Diego Garcia?

General WRIGHT. Sir, I would ask that we go into executive session and we can talk to that if you would like.

Senator THURMOND. I expect it would save time to submit the rest of my questions to be answered for the record.

[Additional questions submitted by Senator Thurmond follow:]

Senator THURMOND. Provide a list of projects in this request that were previously requested and failed authorization. State the reason the project was not authorized.

Answer. The following projects have previously been requested and failed authorization for the reasons as stated:

	<i>Thousands</i>
Installation and project: Fiscal year 1980: RAF Fairford, United Kingdom: Unaccompanied enlisted personnel housing-----	\$5,500
These personnel housing facilities were deleted because of the committee's uncertainty, at the time, of the necessity to station refueling tankers at RAF Fairfield.	
Various locations, Europe:	
Collocated operating base (reduction)-----	9,400
Chemical warfare protection facilities-----	5,300
Although operational requirements, the committee made the determination these projects should be funded by NATO.	
Fiscal year 1981: Andrews AFB, Md.: Data processing facility computer equipment being revised-----	1,100
Various locations, Europe: Minimum essential facilities-----	1,600
Although an operational requirement, the committee made the determination this project should be funded by NATO.	

Senator THURMOND. Provide a list of projects in this request that were previously authorized but for some reason were never built. State the reason the project was not built.

General WRIGHT. The following projects were previously authorized but not appropriated.

Location: Project description:

	<i>PA (thousands)</i>
Port Hueneme:	
STS-Solid rocket booster Disassem complex-----	\$18,000
Lackland:	
Marksmanship Trng Fac-----	2,200
Unaccompanied enlisted personnel hsg-----	6,700
Reese: Consolidated base personnel office-----	2,460
Dover: Add to hydrant fueling sys-----	2,450
Castle: Fuel system maintenance dock-----	4,690
Offutt: Electrical distribution sys-----	825
Vandenberg: Space transportation sys—var facs-----	10,890
Luke: Acft maint unit fac-----	3,170

In addition, the projects listed in the attached \$242.5 million Military Construction Fund Shortfall request were previously authorized but construction deferred due to lack of funds.

1. COMPONENT AIR FORCE		2. DATE FY 1982 MILITARY CONSTRUCTION PROJECT DATA	
3. INSTALLATION AND LOCATION VARIOUS LOCATIONS			
4. PROJECT TITLE MILITARY CONSTRUCTION FUND SHORTFALL		5. PROJECT NUMBER	
REVISED LIST INSIDE THE UNITED STATES			
STATE/ COUNTRY	INSTALLATION	PROJECT	(\$000) AMOUNT
ALABAMA	Maxwell	Unaccompanied Enl Pers Hsg (Gunter AFB)	1,800
	Maxwell	Alter Unaccompanied Enl Pers Housing	3,600
ALASKA	Elnendorf	New Aircraft Beddown Facs	6,400
ARIZONA	Davis- Monthan	Ground Launched Cruise Missile Training Facs	3,200
	Davis- Monthan	Dust Control	650
ARKANSAS	Blytheville	Security Police Opns Fac	870
		AICUZ	1,600
CALIFORNIA	George	Industrial Waste Treatment Fac	710
		Composite Medical Facility	23,500
	McClellan	Fire Station	1,570
		Energy Showcase	2,100
	March	AICUZ	850
	Norton	Fire Station	2,075
	Travis	Vehicle Maint Shop	700
	Vandenberg	STS	5,000
COLORADO	Buckley	AICUZ	2,350
	Peterson	Heating Plants/Fuel Oil Standby	700
DELAWARE	Dover	Runway Approach Lighting	910

1. COMPONENT AIR FORCE		2. DATE																																																																						
FY 1982 MILITARY CONSTRUCTION PROJECT DATA																																																																								
3. INSTALLATION AND LOCATION VARIOUS LOCATIONS																																																																								
4. PROJECT TITLE MILITARY CONSTRUCTION FUND SHORTFALL		5. PROJECT NUMBER																																																																						
<u>REVISED LIST</u> <u>INSIDE THE UNITED STATES</u> <table border="1"> <thead> <tr> <th>STATE/ COUNTRY</th> <th>INSTALLATION</th> <th>PROJECT</th> <th>(\$000) AMOUNT</th> </tr> </thead> <tbody> <tr> <td rowspan="2">FLORIDA</td> <td>Eglin</td> <td>Chapel Center</td> <td>1,190</td> </tr> <tr> <td>Tyndall</td> <td>Munitions Maint Fac</td> <td>2,400</td> </tr> <tr> <td>ILLINOIS</td> <td>Chanute</td> <td>Unaccompanied Enlisted Personnel Housing</td> <td>7,400</td> </tr> <tr> <td>INDIANA</td> <td>Grissom</td> <td>AICUZ</td> <td>780</td> </tr> <tr> <td>LOUISIANA</td> <td>England</td> <td>Acft Maint Control Fac</td> <td>1,300</td> </tr> <tr> <td rowspan="3">MAINE</td> <td rowspan="3">Loring</td> <td>Upgrade Weapons Storage and Alert Security</td> <td>4,940</td> </tr> <tr> <td>Construct Unaccompanied Enlisted Enlisted Personnel Housing</td> <td>4,350</td> </tr> <tr> <td>Heat Plant Emission Control</td> <td>7,528</td> </tr> <tr> <td>MARYLAND</td> <td>Andrews</td> <td>Ready Crew Facility</td> <td>2,620</td> </tr> <tr> <td rowspan="2">MICHIGAN</td> <td>KL Sawyer</td> <td>Munitions Storage Fac</td> <td>1,750</td> </tr> <tr> <td>Wurtsmith</td> <td>Alter Composite Medical Fac</td> <td>12,600</td> </tr> <tr> <td>MISSISSIPPI</td> <td>Keesler</td> <td>Precision Measurement Equip Lab</td> <td>1,400</td> </tr> <tr> <td rowspan="2">MISSOURI</td> <td>Richards-Gebaur</td> <td>Regional Sewage Connection</td> <td>1,240</td> </tr> <tr> <td>Whiteman</td> <td>Base Engineer Facility</td> <td>1,090</td> </tr> <tr> <td>MONTANA</td> <td>Malmstrom</td> <td>Small Arms Ranges</td> <td>900</td> </tr> <tr> <td>NEW MEXICO</td> <td>Kirtland</td> <td>Energy Conservation</td> <td>690</td> </tr> <tr> <td rowspan="3">NORTH CAROLINA</td> <td rowspan="3">Pope</td> <td>Dental Clinic</td> <td>1,950</td> </tr> <tr> <td>Consol Base Personnel Office</td> <td>3,550</td> </tr> <tr> <td>Alt Unaccom Enlisted Pers Hsg</td> <td>3,000</td> </tr> </tbody> </table>				STATE/ COUNTRY	INSTALLATION	PROJECT	(\$000) AMOUNT	FLORIDA	Eglin	Chapel Center	1,190	Tyndall	Munitions Maint Fac	2,400	ILLINOIS	Chanute	Unaccompanied Enlisted Personnel Housing	7,400	INDIANA	Grissom	AICUZ	780	LOUISIANA	England	Acft Maint Control Fac	1,300	MAINE	Loring	Upgrade Weapons Storage and Alert Security	4,940	Construct Unaccompanied Enlisted Enlisted Personnel Housing	4,350	Heat Plant Emission Control	7,528	MARYLAND	Andrews	Ready Crew Facility	2,620	MICHIGAN	KL Sawyer	Munitions Storage Fac	1,750	Wurtsmith	Alter Composite Medical Fac	12,600	MISSISSIPPI	Keesler	Precision Measurement Equip Lab	1,400	MISSOURI	Richards-Gebaur	Regional Sewage Connection	1,240	Whiteman	Base Engineer Facility	1,090	MONTANA	Malmstrom	Small Arms Ranges	900	NEW MEXICO	Kirtland	Energy Conservation	690	NORTH CAROLINA	Pope	Dental Clinic	1,950	Consol Base Personnel Office	3,550	Alt Unaccom Enlisted Pers Hsg	3,000
STATE/ COUNTRY	INSTALLATION	PROJECT	(\$000) AMOUNT																																																																					
FLORIDA	Eglin	Chapel Center	1,190																																																																					
	Tyndall	Munitions Maint Fac	2,400																																																																					
ILLINOIS	Chanute	Unaccompanied Enlisted Personnel Housing	7,400																																																																					
INDIANA	Grissom	AICUZ	780																																																																					
LOUISIANA	England	Acft Maint Control Fac	1,300																																																																					
MAINE	Loring	Upgrade Weapons Storage and Alert Security	4,940																																																																					
		Construct Unaccompanied Enlisted Enlisted Personnel Housing	4,350																																																																					
		Heat Plant Emission Control	7,528																																																																					
MARYLAND	Andrews	Ready Crew Facility	2,620																																																																					
MICHIGAN	KL Sawyer	Munitions Storage Fac	1,750																																																																					
	Wurtsmith	Alter Composite Medical Fac	12,600																																																																					
MISSISSIPPI	Keesler	Precision Measurement Equip Lab	1,400																																																																					
MISSOURI	Richards-Gebaur	Regional Sewage Connection	1,240																																																																					
	Whiteman	Base Engineer Facility	1,090																																																																					
MONTANA	Malmstrom	Small Arms Ranges	900																																																																					
NEW MEXICO	Kirtland	Energy Conservation	690																																																																					
NORTH CAROLINA	Pope	Dental Clinic	1,950																																																																					
		Consol Base Personnel Office	3,550																																																																					
		Alt Unaccom Enlisted Pers Hsg	3,000																																																																					

1 COMPONENT		2 DATE																																																																									
AIR FORCE		FY 1982 MILITARY CONSTRUCTION PROJECT DATA																																																																									
3 INSTALLATION AND LOCATION																																																																											
VARIOUS LOCATIONS																																																																											
4. PROJECT TITLE		5. PROJECT NUMBER																																																																									
MILITARY CONSTRUCTION FUND SHORTFALL																																																																											
<u>REVISED LIST</u> <u>INSIDE THE UNITED STATES</u> <table border="1"> <thead> <tr> <th><u>STATE/ COUNTRY</u></th> <th><u>INSTALLATION</u></th> <th><u>PROJECT</u></th> <th><u>(\$000) AMOUNT</u></th> </tr> </thead> <tbody> <tr> <td><u>NORTH DAKOTA</u></td> <td>Minot</td> <td>Munitions Storage Fac</td> <td>2,000</td> </tr> <tr> <td><u>NEW YORK</u></td> <td>Griffiss</td> <td>Munitions Storage Fac</td> <td>2,500</td> </tr> <tr> <td></td> <td></td> <td>Religious Education Center</td> <td>850</td> </tr> <tr> <td><u>OHIO</u></td> <td>Wright- Patterson</td> <td>Alter Unaccompanied Enlisted Personnel Housing</td> <td>4,600</td> </tr> <tr> <td></td> <td></td> <td>Alter Unaccompanied Enlisted Personnel Housing</td> <td>3,100</td> </tr> <tr> <td><u>OKLAHOMA</u></td> <td>Tinker</td> <td>Fire Station</td> <td>1,850</td> </tr> <tr> <td></td> <td></td> <td>Energy Conservation</td> <td>8,000</td> </tr> <tr> <td></td> <td></td> <td>Industrial Waste Treatment/ Disposal Facility (Partial)</td> <td>5,930</td> </tr> <tr> <td><u>TENNESSEE</u></td> <td>Arnold Engineering Development Center</td> <td>Heating Plant Coal Conversion</td> <td>18,500</td> </tr> <tr> <td><u>TEXAS</u></td> <td>Carswell</td> <td>Vehicle Maintenance Shop</td> <td>6,000</td> </tr> <tr> <td></td> <td></td> <td>Refueling Vehicle Shop</td> <td>1,500</td> </tr> <tr> <td></td> <td>Dyess</td> <td>Energy Conservation</td> <td>1,500</td> </tr> <tr> <td></td> <td>Laughlin</td> <td>Central Acft Support Sys (CASS)</td> <td>1,210</td> </tr> <tr> <td></td> <td>Reese</td> <td>Central Acft Support Sys (CASS)</td> <td>1,520</td> </tr> <tr> <td><u>VIRGINIA</u></td> <td>Langley</td> <td>Munitions Storage Fac</td> <td>1,800</td> </tr> <tr> <td></td> <td></td> <td>Altr Unaccom Enlisted Pers Hsg</td> <td>3,200</td> </tr> <tr> <td><u>WASHINGTON</u></td> <td>McChord</td> <td>Munitions Storage Fac</td> <td>3,300</td> </tr> </tbody> </table>				<u>STATE/ COUNTRY</u>	<u>INSTALLATION</u>	<u>PROJECT</u>	<u>(\$000) AMOUNT</u>	<u>NORTH DAKOTA</u>	Minot	Munitions Storage Fac	2,000	<u>NEW YORK</u>	Griffiss	Munitions Storage Fac	2,500			Religious Education Center	850	<u>OHIO</u>	Wright- Patterson	Alter Unaccompanied Enlisted Personnel Housing	4,600			Alter Unaccompanied Enlisted Personnel Housing	3,100	<u>OKLAHOMA</u>	Tinker	Fire Station	1,850			Energy Conservation	8,000			Industrial Waste Treatment/ Disposal Facility (Partial)	5,930	<u>TENNESSEE</u>	Arnold Engineering Development Center	Heating Plant Coal Conversion	18,500	<u>TEXAS</u>	Carswell	Vehicle Maintenance Shop	6,000			Refueling Vehicle Shop	1,500		Dyess	Energy Conservation	1,500		Laughlin	Central Acft Support Sys (CASS)	1,210		Reese	Central Acft Support Sys (CASS)	1,520	<u>VIRGINIA</u>	Langley	Munitions Storage Fac	1,800			Altr Unaccom Enlisted Pers Hsg	3,200	<u>WASHINGTON</u>	McChord	Munitions Storage Fac	3,300
<u>STATE/ COUNTRY</u>	<u>INSTALLATION</u>	<u>PROJECT</u>	<u>(\$000) AMOUNT</u>																																																																								
<u>NORTH DAKOTA</u>	Minot	Munitions Storage Fac	2,000																																																																								
<u>NEW YORK</u>	Griffiss	Munitions Storage Fac	2,500																																																																								
		Religious Education Center	850																																																																								
<u>OHIO</u>	Wright- Patterson	Alter Unaccompanied Enlisted Personnel Housing	4,600																																																																								
		Alter Unaccompanied Enlisted Personnel Housing	3,100																																																																								
<u>OKLAHOMA</u>	Tinker	Fire Station	1,850																																																																								
		Energy Conservation	8,000																																																																								
		Industrial Waste Treatment/ Disposal Facility (Partial)	5,930																																																																								
<u>TENNESSEE</u>	Arnold Engineering Development Center	Heating Plant Coal Conversion	18,500																																																																								
<u>TEXAS</u>	Carswell	Vehicle Maintenance Shop	6,000																																																																								
		Refueling Vehicle Shop	1,500																																																																								
	Dyess	Energy Conservation	1,500																																																																								
	Laughlin	Central Acft Support Sys (CASS)	1,210																																																																								
	Reese	Central Acft Support Sys (CASS)	1,520																																																																								
<u>VIRGINIA</u>	Langley	Munitions Storage Fac	1,800																																																																								
		Altr Unaccom Enlisted Pers Hsg	3,200																																																																								
<u>WASHINGTON</u>	McChord	Munitions Storage Fac	3,300																																																																								

DD FORM 1391c

PREVIOUS EDITION IS OBSOLETE IN THE USAF.

PAGE NO 413

U.S. G.P.O. 1977-241-130/1215

1. COMPONENT AIR FORCE		2. DATE	
3. INSTALLATION AND LOCATION FY 1982 MILITARY CONSTRUCTION PROJECT DATA			
VARIOUS LOCATIONS			
4. PROJECT TITLE MILITARY CONSTRUCTION FUND SHORTFALL		5. PROJECT NUMBER	
OUTSIDE THE UNITED STATES			
STATE/ COUNTRY	INSTALLATION	PROJECT	(\$000) AMOUNT
AZORES	Lajes Field	Upgrade/Construct Various Facs	22,300
KOREA	Osan	Quick Turn Facility	10,100
		Alter Acft Shelters	8,750
	Taegu	Unaccompanied Officer Pers Hsg	700
LIBERIA	Roberts International Airport	Various OPNL Facilities	6,050
PANAMA	Howard	Security Facilities	2,900
UNITED KINGDOM	RAF Upper-Heyford	Airfield Security Impr	1,550
VARIOUS LOCATIONS	US Air Forces in Europe	Classified Special OPNS Fac	3,527
GRAND TOTAL			\$242,500

Senator THURMOND. Are any projects in your request impacted by pending or planned base realignment announcements? Provide a list and discuss the potential impact of the realignment announcement.

General WRIGHT. I am aware of no base realignment announcements pending or planned which would impact the fiscal year 1982 request.

Senator THURMOND. Provide for the record a list of unfunded construction projects in order of priority totalling not more than \$100 million that can be put under contract during fiscal year 1981. Include with your list the project design status and the project form 1391.

General WRIGHT. The attached listing represents those top priority projects, in alphabetical order, that are valid requirements if added to the fiscal year 1982 MCP. All are equally essential requirements supporting quality of life, environmental protection or aircraft maintenance.

DEPARTMENT OF THE AIR FORCE, ADDITIONAL FISCAL YEAR 1982 MCP REQUIREMENTS

Installation and project	Cost (thousands)	Percent design completion
Altus AFB, Okla.: Unaccompanied enlisted personnel housing.....	\$6,653	35
Carswell AFB, Tex.: Add to/alter composite medical facility.....	13,000	2
Hanscom AFB, Mass.: Systems management engineering facility.....	9,000	50
Keesler AFB, Miss.: Base civil engineering complex.....	6,200	40
Malmstrom AFB, Mont.: Heat plant.....	50,400	100
March AFB, Calif.: Regional water supply connection.....	765	1
McClellan AFB, Calif.: Depot hydraulic facility.....	12,400	65
Pease AFB, N.H.: Alter dining hall.....	920	95
Tyndall AFB, Fl.: Unaccompanied enlisted personnel housing.....	3,394	2
Total.....	102,732	

¹ Not applicable.

1. COMPONENT AIR FORCE		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 1 AUG 80	
3. INSTALLATION AND LOCATION ALTUS AIR FORCE BASE, OKLAHOMA			4. PROJECT TITLE UNACCOMPANIED ENLISTED PERSONNEL HOUSING		
5. PROGRAM ELEMENT 4.18.96F	6. CATEGORY CODE 721-312	7. PROJECT NUMBER	8. PROJECT COST (\$000) 6,653		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Unaccompanied Enlisted Pers Housing (392 PN)	SF	82,688	59.91	4,954	
Supporting Facilities				806	
Electrical	LS			(20)	
Transformers	KV	700	80.00	(56)	
Water, Sanitary Sewer, Gas Lines	LS			(74)	
Heating (Utility Tunnel)	LF	880	90.90	(80)	
Storm Drains	LF	840	61.90	(52)	
Special Foundations	EA	500	362.00	(181)	
Privacy Fences	LF	300	36.67	(11)	
Roads, Parking, Walks	LS			(225)	
Communication Support	LS			(36)	
Site Improvement	LS			(35)	
Demolition	LS			(36)	
Subtotal				5,760	
Contingency (10%)				576	
Total Contract Cost				6,336	
SION (5%)				317	
Total Request				6,653	
10. DESCRIPTION OF PROPOSED CONSTRUCTION Concrete foundation, concrete floor slab, concrete structure, brick skin with shingle roof. Includes bedrooms, baths, game rooms, storage rooms, central laundry, janitor's closet and public restrooms. Grade mix: 352 E1-E4, 32 E5-E6, 8 E7-E9.					
1. ON BASE REQUIREMENT: 1,702 PN ADEQUATE: 1,032 PN SUBSTANDARD: 614 PN DEFICIT: 670 PN PROJECT: Construct housing for unaccompanied enlisted personnel. REQUIREMENT: Adequate living quarters are required to properly accommodate unaccompanied enlisted personnel. These facilities must provide sufficient space and the degree of privacy necessary for proper rest, relaxation, and individual well-being. Modern and functional living quarters, which will attract and retain highly skilled enlisted personnel, are essential for maintaining an effective, all-volunteer Air Force. CURRENT SITUATION: 614 unaccompanied enlisted personnel are housed in substandard facilities at Altus. Inadequate lighting, poor insulation and sound attenuation, obsolete electrical and mechanical systems, and lack of privacy are the major inadequacies of these facilities. The existing substandard facilities are wooden and, as such, will be replaced instead of upgraded. IMPACT IF NOT PROVIDED: Enlisted personnel will continue to be forced to live in substandard facilities.					

DD FORM 1391

PREVIOUS EDITIONS MAY BE USED UNTIL EXHAUSTED

COMMAND SUBMITTAL

PAGE NO

9

FOR OFFICIAL USE ONLY

1 COMPONENT AIR FORCE		FY 1983 MILITARY CONSTRUCTION PROJECT DATA		2 DATE	
3 INSTALLATION AND LOCATION CARSWELL AIR FORCE BASE, TEXAS			4 PROJECT TITLE ADD TO AND ALTER COMPOSITE MEDICAL FACILITY		
5 PROGRAM ELEMENT 8.12 11	6 CATEGORY CODE 510-001	7 PROJECT NUMBER	8 PROJECT COST (\$000) 40,000		
9 COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Add to and Alter Composite Medical Facility..	LS			35,500	
Addition.....	SF	112,422	210.52	(23,667)	
Alteration.....	LS			(11,833)	
Supporting Facilities.....				781	
Utilities.....				(560)	
Site Improvement.....				(281)	
Subtotal.....				36,281	
Contingency (5%).....				1,811	
Total Contract Cost.....				38,095	
Supervision, Inspection and Overhead (5%)....				1,905	
Total Request.....				40,000	
10 DESCRIPTION OF PROPOSED CONSTRUCTION Construction of additions to the USAF Regional Hospital; masonry walls, concrete foundation and floor slab, structural steel frame and built-up roof. Alteration of the existing facility to include all structural, electrical and mechanical work necessary to provide an adequate facility. The area includes the required space for the entire USAF Regional Hospital and Dental Clinic. All necessary utilities.					
11. REQUIREMENT: 301,306 SF. ADEQUATE: 0 SF. SUBSTANDARD: 193,460 SF. PROJECT: Project provides for the addition to, repair, maintenance, modification and modernization of the USAF Regional Hospital at Carswell Air Force Base.					
REQUIREMENT: Since the completion of this hospital in 1958, fire and life safety protection code requirements for patients and staff have become more stringent. Specific requirements for health care facilities in general, and hospitals with inpatient capabilities in particular, have been developed by the National Fire Protection Association (NFPA), Life Safety Code 1973 and adopted by the national health care industry. Life safety requirements have also been formalized in the national Occupational Safety and Health Act (OSHA). The Joint Commission on Accreditation of Hospitals (JCAH) requires adherence to the NFPA life safety code standards and accreditation of hospitals is contingent upon meeting these requirements. This project is necessary to comply with the Joint Commission on Accreditation of Occupational Safety and Health Act, National Fire Protection Association regulation, and to provide space for the additional mission of a Family Practice Residency. Additionally, a modern up-to-date dental clinic facility is required to provide adequate space for treatment of					

1. COMPONENT	FY 1983 MILITARY CONSTRUCTION PROJECT DATA		2. DATE
AIR FORCE			
3. INSTALLATION AND LOCATION			
CARSWELL AIR FORCE BASE, TEXAS			
4. PROJECT TITLE		5. PROJECT NUMBER	
ADD TO AND ALTER			
COMPOSITE MEDICAL FACILITY			
11. Continued personnel stationed at Carswell Air Force Base and the Intern Training Program. <u>CURRENT SITUATION:</u> Presently, the hospital has deficiencies which violate fire safety/fire protection criteria which the USAF Medical Service must comply with, such as NFPA 101 Life Safety Code 1973, the Occupational Safety and Health Act, and the Accreditation Manual for Hospitals, Joint Commission on Accreditation of Hospitals as well as Air Force standards. The major impact of these deficiencies and violations directly affects the health and safety of in-patients and staff in the in-patient areas of the hospital. The existing dental clinic has only 33% of the space required for this base. The lack of treatment rooms seriously interferes with the accomplishment of the dental mission. <u>IMPACT IF NOT PROVIDED:</u> Patients and staff will not be afforded the fire safety protection that is currently considered the minimum acceptable standard unless this project is accomplished. Moreover, the hospital's future accreditation by the JCAF is placed in jeopardy as a result of these deficiencies.			

1. COMPONENT AIR FORCE		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION HANSCOM AIR FORCE BASE, MASSACHUSETTS			4. PROJECT TITLE SYSTEMS MANAGEMENT/ENGINEERING FACILITY		
5. PROGRAM ELEMENT 6.58.96	6. CATEGORY CODE 317-315	7. PROJECT NUMBER	8. PROJECT COST (\$000) 9,000		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Systems Management/Engineering Facility.....	SF	91,578		6,590	
Administrative Area.....	SF	(77,578)	66.00	(5,120)	
Vault Area.....	SF	(14,000)	105.00	(1,470)	
Supporting Facilities.....				1,573	
Electric.....	LS			(50)	
Transformer.....	KVA	750	78.45	(59)	
Utilities.....	LS			(139)	
Demolition.....	SF	78,064	5.15	(402)	
Site Improvement.....	LS			(150)	
Roads, Parking and Walks.....	SY	3,900	14.28	(56)	
Solar Applications.....	LS			(717)	
Subtotal.....				8,163	
Contingency (5%).....				408	
Total Contract Cost.....				8,571	
Supervision, Inspection and Overhead (5%)....				429	
Total Request.....				9,000	
10. DESCRIPTION OF PROPOSED CONSTRUCTION Masonry walls, concrete foundation and floor slab, structural steel frame, with roof system and movable partitions. Includes administrative, conference, engineering analysis vault, and storage areas; utilities and necessary support. Air Conditioning - 300 Tons.					
11. REQUIREMENT: 587,540 SF. Adequate: 476,722 SF. Substandard: 78,844 SF PROJECT: Construct a Systems Management Engineering Facility. REQUIREMENT: This facility is required to replace an existing facility which houses the Deputy for Surveillance and Navigation Systems, and to provide for a software development vaulted area. A functionally configured facility with adequate secure areas and environmental controls is essential for efficient management of \$2.5 billion of on-going programs. Several of the programs have intelligence related requirements and will require a sensitive compartmented information/intelligence area for implementation upon completion of developmental planning. This project, combined with the Systems Management Engineering Facility authorized and appropriated in the FY 1980 Military Construction Program, will satisfy the administrative space requirements at Hanscom. CURRENT SITUATION: The existing facility is a series of eight metal "Butler" type buildings with interconnecting corridors and was constructed in 1953 as a temporary use structure by the Rand Corporation. The metal buildings cannot be economically insulated for efficient and effective environmental control. Mechanical systems have exceeded their life expectancy, require extensive maintenance and repair, and need to be replaced. Small cubicle offices and large corridors result in inefficient personnel management and contributes to an inefficient environmental					

1. COMPONENT	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE
AIR FORCE			
3. INSTALLATION AND LOCATION			
HANSCOM AFB, MASSACHUSETTS			
4. PROJECT TITLE		5. PROJECT NUMBER	
SYSTEMS MANAGEMENT/ENGINEERING FACILITY II			
control system. Areas in which highly classified programs are developed and managed do not meet security requirements. The net results of these unacceptable conditions is inefficient operations and extensive morale and management problems. <u>IMPACT IF NOT PROVIDED:</u> The inefficient environmental control system combined with an inadequately insulated facility, will continue to result in high energy consumption. An extensive facility maintenance and repair program must be continued. Morale and management problems will continue to exist.			

1. COMPONENT AIR FORCE		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION KEESLER AIR FORCE BASE, MISSISSIPPI			4. PROJECT TITLE BASE CIVIL ENGINEERING COMPLEX		
5. PROGRAM ELEMENT 3.57.96	6. CATEGORY CODE 219-944	7. PROJECT NUMBER	8. PROJECT COST (\$000) 6,200		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Base Civil Engineering Complex.....	LS			4,280	
Administrative Facility.....	SF	30,500	52.00	(1,586)	
Shop Facilities.....	SF	22,400	54.00	(1,210)	
Storage Facilities.....	LS			(1,484)	
Support Facilities.....				1,317	
Utilities.....	LS			(352)	
Demolition.....	LS			(76)	
Roads, Parking and Fencing.....	LS			(367)	
Fire Protection.....	LS			(42)	
Emergency Power & Communications.....	LS			(49)	
Site Improvement.....	LS			(431)	
Subtotal.....				5,597	
Contingency (5%).....				280	
Total Contract Cost.....				5,877	
Supervision, Inspection and Overhead (5.5%).....				323	
Total Request.....				6,200	
10. DESCRIPTION OF PROPOSED CONSTRUCTION Reinforced concrete foundation and slab, masonry walls and steel roof. Includes administrative space, control rooms, conference rooms, maintenance shops, covered shed and open storage, support space and utilities. AIR CONDITIONING - 65 Tons					
11. REQUIREMENT: As Required.					
PROJECT: Construction of a base engineering complex.					
REQUIREMENT: A centrally located, adequately sized and functionally configured facility complex is needed to accommodate management and control functions in support of maintenance and utilities services for all base facilities. Consolidated shops space, equipment and supply storage, engineering and management support areas and work control space are required for the efficient and effective performance of the tasks necessary to keep base wide utility systems in operation and to properly maintain all base facilities.					
CURRENT SITUATION: Currently these functions are housed in 17 facilities located throughout the base. Most have frame construction and have deteriorated beyond economical repair. Critical problems include inadequate lighting, insulation and mechanical systems and overcrowded, poorly configured space. In addition, dispersal of related functions makes it difficult to provide effective and responsive facility maintenance support. This project will provide the necessary space to accommodate these essential base support activities in an energy efficient, consolidated complex.					
IMPACT IF NOT PROVIDED: These functions will remain decentralized in sub-standard facilities with continued ineffective use of manpower and ineffective facility support.					

DD FORM 1391

PREVIOUS EDITIONS MAY BE USED INTERNALLY
UNTIL EXHAUSTED

MAY 1981

1. COMPONENT AIR FORCE		FY 19__ MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION MALMSTROM AIR FORCE BASE, MONTANA			4. PROJECT TITLE CENTRAL HEATING PLANT		
5. PROGRAM ELEMENT 1.18.96	6. CATEGORY CODE 821-116	7. PROJECT NUMBER	8. PROJECT COST (\$000) 50,400		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Central Heating Plant.....	LS			45,184	
High Temperature Water Plant.....	LS			(23,879)	
Distribution System.....	LS			(20,988)	
Railroad Trackage/Unloading.....	LS			(317)	
Supporting Facilities.....				530	
Electric.....	LS			(168)	
Water, Sanitary Sewer and Heat.....	LS			(123)	
Site Improvement.....	LS			(87)	
Roads, Parking and Walks.....	LS			(152)	
Subtotal.....				45,714	
Contingency (5%).....				2,286	
Total Contract Cost.....				48,000	
Supervision, Inspection and Overhead (5%).....				2,400	
Total Request.....				50,400	
10. DESCRIPTION OF PROPOSED CONSTRUCTION Pre-engineered metal building, concrete floor slab and foundations, structural steel frame and roof system, boilers and appurtenances. Includes coal fired high temperature hot water heating plant, coal storage facility with provision for unloading railroad cars, pollution control equipment, distribution lines and controls; alterations of existing utility rooms to permit connection to central heating system, support space and utilities.					
11. REQUIREMENT: As Required.					
PROJECT: Construction of a central high temperature hot water, coal fired heating plant.					
REQUIREMENT: A central coal fired heating plant is required because of depleting supplies of both natural gas and oil. Coal-burning capability will insure a reliable and economical supply of heat for essential base facilities.					
CURRENT SITUATION: Heat is presently supplied by individual building units and small central units for several buildings firing natural gas and/or oil. Both fuels have been in short supply with all predictions forecasting critical shortages. The new central plant will be designed to use locally available coal resources.					
IMPACT IF NOT PROVIDED: Failure to construct a coal fired central heating plant will greatly increase the risk of total or partial incapacitation of essential mission support facilities due to a natural gas and oil shortages.					

1. COMPONENT AIR FORCE		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION MARCH AIR FORCE BASE, CALIFORNIA			4. PROJECT TITLE CONNECT TO REGIONAL WATER SUPPLY		
5. PROGRAM ELEMENT 1.18.96	6. CATEGORY CODE 841-162	7. PROJECT NUMBER	8. PROJECT COST (\$000) 765		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Connect to Regional Water Supply.....	LS			625	
Service Connection Meter Facilities.....	LS			(625)	
Supporting Facilities				69	
Pumping Plant and Controls.....	LS			(42)	
Pipeline.....	LS			(27)	
Subtotal.....				694	
Contingency (5%).....				35	
Total Contract Cost.....				729	
Supervision, Inspection and Overhead (5%) ..				36	
Total Request.....				765	
10. DESCRIPTION OF PROPOSED CONSTRUCTION Connect to regional potable water system to include on-base pumping plant with three electric driven horizontal centrifugal pump units with automatic controls and pipe line to connect to base water line.					
11. REQUIREMENT: 5,000 KG Adequate: 0. Substandard: 4147 KG PROJECT: Connects the base potable water system to the Eastern Municipal Water District (EMWD) System. REQUIREMENT: To comply with Santa Ana Water Quality Control Board (SAWQCB) Order #79-9 and Public Law 95-217 regarding quality of wastewater effluent. CURRENT SITUATION: The current source of water for March is a system of on-base wells supplemented by Colorado River water piped in from Lake Mathews. Colorado water contains high chemical levels which the Water Quality Control Plan of the Santa Ana River Basin is trying to control. In order that full compliance with Order #79-9 be obtained, it is necessary that the base switch to Northern California Water (State Project Water) which contains lower chemical levels than found in the water from the current March AFB sources. The base will be allowed to comply with interim discharge limitations and must switch to northern water in 1983. IMPACT IF NOT PROVIDED: March AFB will continue to be in violation of wastewater discharge limitations established by SAWQCB and may be subject to penalties for willful violation of standards. Connection to the EMWD water supply is a more economical method of compliance with SAWQCB requirements that treatment of either the current potable supply or wastewater effluent.					

1. COMPONENT AIR FORCE		FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION MCLELLAN AIR FORCE BASE, CALIFORNIA			4. PROJECT TITLE DEPOT HYDRAULIC FACILITY		
5. PROGRAM ELEMENT 7.28.96	6. CATEGORY CODE 211-253	7. PROJECT NUMBER	8. PROJECT COST (\$000) 12,400		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Depot Hydraulic Facility.....	SF	100,000	98.00	8,800	
Supporting Facilities.....	LS			2,448	
Electric.....	LS			(335)	
Steam and Condensate Line.....	LS			(440)	
Utilities.....	LS			(463)	
Demolition.....	LS			(55)	
Site Improvement.....	LS			(350)	
Roads, Parking and Walks.....	LS			(400)	
Solar Application.....	LS			(405)	
Subtotal.....				11,248	
Contingency (5%).....				562	
Total Contract Cost.....				11,810	
Supervision, Inspection and Overhead (5%)...				590	
Total Request.....				12,400	
Equipment Provided from Other Appropriations				(4,129)	
10. DESCRIPTION OF PROPOSED CONSTRUCTION Concrete walls, floor, and foundations; structural steel frame; built-up roofing system; fire protection and material handling system. Includes administration; materials control; shop; training rooms; assembly, pump and shop support areas. Load dock, utilities and necessary support. Air Conditioning - 480 Tons.					
11. REQUIREMENT: 100,000 SF. Adequate: 0. Substandard: 69,062 SF. PROJECT: A building for production line overhaul of aeronautical hydraulics components, to prevent technological mission failure. REQUIREMENT: Sacramento Air Logistics Center (ALC) is a single point, Air Force specialized center for these components, processing 50,000 major items annually. A consolidated industrial facility, integrating modern automated test equipment and efficient flow process systems is mandatory to keep pace with advancing technology, increased production and high quality. Concurrently, the rising overhaul costs for these increasingly sophisticated, hybrid electronic/hydraulic components must be significantly reduced. Acquisition of a new facility and replacing antiquated test equipment and processes is essential to this objective. Completed items are supplied thru logistics "pipelines" to tri-service combat-ready squadrons worldwide, equipped with first line tactical/strategic aircraft and missiles. CURRENT SITUATION: Shops are located in two very congested buildings nearly 1/2 mile apart. Building 243A (45,395 SF) was austere constructed (\$900,000) in 1970 for workloads 49% less than is now produced and projected thru 1990. Site restrictions and airfield boundaries make expansion impossible. Building 355 (23,667 SF), a 42 year old converted woodmill is totally antiquated and not worth upgrading or expanding. Present buildings cannot provide adequate space and environment necessary for the new test equipment and process flow demands.					

1. COMPONENT AIR FORCE	FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA	2. DATE
3. INSTALLATION AND LOCATION MCCLELLAN AIR FORCE BASE, CALIFORNIA		
4. PROJECT TITLE DEPOT HYDRAULIC FACILITY		5. PROJECT NUMBER
IMPACT IF NOT PROVIDED: (a) Loss of \$.9 million a year savings in reduced production costs; (b) Inability to establish/maintain advancing technology base and install new automated equipment; (c) Inability to meet war surge production; (d) Loss of substantial savings in technical use of electrical and thermal energy.		

1. COMPONENT AIR FORCE		FY 19 ⁸² MILITARY CONSTRUCTION PROJECT DATA		2. DATE	
3. INSTALLATION AND LOCATION PEASE AIR FORCE BASE, NEW HAMPSHIRE			4. PROJECT TITLE ALTER DINING HALL		
5. PROGRAM ELEMENT 1.18.96	6. CATEGORY CODE 723-351	7. PROJECT NUMBER	8. PROJECT COST (\$000) 920		
9. COST ESTIMATES					
ITEM	U M	QUANTITY	UNIT COST	COST (\$000)	
Alter Dining Hall.....	SF	10,890	73.45	800	
Structural Alterations.....	LS			(302)	
Mechanical Alterations.....	LS			(377)	
Electrical Alterations.....	LS			(121)	
Supporting Facilities.....	LS			34	
Utilities.....	LS			(34)	
Subtotal.....				834	
Contingency (5%).....				42	
Total Contract Cost.....				876	
Supervision, Inspection and Overhead (5%)....				44	
Total Request.....				920	
10. DESCRIPTION OF PROPOSED CONSTRUCTION All structural, mechanical and electrical work necessary to upgrade the existing dining hall to meet acceptable feeding standards. Includes kitchen, serving lines, dining areas, food and material storage, restrooms, administrative and support space and utilities.					
11. REQUIREMENT: 10,890 SF Adequate: 0 Substandard: 10,890 SF. PROJECT: Alteration of the existing dining hall to upgrade equipment, safety, health, service, and operational deficiencies. REQUIREMENT: An improved dining facility is required to provide an environment which will protect the personal health and safety of patrons and employees; provide food preparation and refrigeration equipment suitable for high quality progressive (batch) cooking and a kitchen layout conducive to efficient utilization of labor; provide modern serving lines designed to insure optimum customer flow and adequately equipped for both main entree and short order lines; and, achieve decor comparable to commercial restaurant standards. CURRENT SITUATION: Several aspects of this total requirement are directly related to personal health and safety of dining hall patrons and employees. Specifically, the lack of proper ventilation in the kitchen area presents a definite health and safety hazard for personnel--particularly in summer months. Also, numerous National Fire Prevention Association violations exist in both kitchen (Hoods) and dining (ceiling and walls) areas presenting serious safety hazards which must be corrected. Also related to personal safety, the perishable storage areas are totally inadequate. Limited refrigerated thawing area causes room temperature thawing of some foods, creating a dangerous environment which fosters the growth of harmful bacteria. In addition, the existing frozen food storage space is too small.					

1. COMPONENT AIR FORCE	FY 1982 MILITARY CONSTRUCTION PROJECT DATA		2. DATE
3. INSTALLATION AND LOCATION PHASE AIR FORCE BASE, NEW HAMPSHIRE			
4. PROJECT TITLE ALTER DINING HALL (CONT'D)		5. PROJECT NUMBER	
to accommodate the quantities of frozen foods required in today's dining hall operations. The present dining facility was designed to support the single entree concept which food service had approximately 20 years ago. The serving line and kitchen equipment are poorly arranged and cannot effectively support the progressive cooking concept. The kitchen and dishwashing area open directly onto the serving and dining areas and present considerable noise disturbance to the individuals dining. <u>IMPACT IF NOT PROVIDED:</u> Existing health and safety deficiencies will become progressively worse.			

1. COMPONENT USAF/TAC		FY 1992 MILITARY CONSTRUCTION PROJECT DATA		2. DATE 6 OCT 80	
3. INSTALLATION AND LOCATION TYNDALL AIR FORCE BASE, FLORIDA			4. PROJECT TITLE CONSTRUCT UNACCOMPANIED ENLISTED PERSONNEL HOUSING		
5. PROGRAM ELEMENT	6. CATEGORY CODE 721-312	7. PROJECT NUMBER	8. PROJECT COST (\$000) 3,394		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
Construct Unaccompanied Enlisted Personnel Housing (280 PN)	SF	50,012	61.55	3,078	
Subtotal				3,078	
Contingency (5%)				154	
Total Contract Cost				3,232	
Supervision, Inspection, and Overhead (5%)..				162	
Total Request				3,394	
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
Construction: Airmen dormitory facilities to be designed based on concept drawings and built using modern methods, materials to provide economical and functional facilities.					
Area Includes: sleeping/living rooms, TN rooms, recreation rooms, laundry rooms, bathrooms, admin spaces, storage spaces, mechanical equipment rooms and POV parking. ACDN-88 Tons.					
ON BASE REQUIREMENTS: 1,191 PN ADEQUATE: 636 PN SUBSTANDARD: 1,178 PN DEFICIT: 555 PN.					
PROJECT: Construction of living quarters for unaccompanied enlisted personnel.					
REQUIREMENT: Adequate living quarters are required to properly accommodate unaccompanied enlisted personnel residing on base. The facilities are required to properly accommodate unaccompanied space and the degree of privacy necessary for proper rest, relaxation and individual well-being. Modern, well-appointed living quarters which will attract and retain competent and highly skilled professional personnel are essential for maintaining an effective all-volunteer Air Force.					
CURRENT SITUATION: Present assets are World War II-Era dormitories which have been remodeled in the past. These facilities are considered inadequate due to their design, age, general condition and deterioration of integral equipment (heating, A/C, plumbing). Crowded living space, central latrines and mechanical failures cause disruption of private life, loss of sleep and reduce morale and mission effectiveness. The civilian community cannot accommodate large numbers of airmen due to limited facilities, high rents and no public transportation. New dormitories will provide facilities which meet today's standards.					

Senator THURMOND. You have requested increased authorization for prior year Military Construction Authorization Acts. Justify this increase. Provide a list of projects that will not be executed unless this increase in authorization is approved.

General WRIGHT. We have very carefully reviewed our requests for deficiency authorization and have determined that the requests for fiscal year 1979, 1980 and 1981 can be withdrawn at this time. We can manage those programs within the total amounts already authorized. The \$65 million increase requested for fiscal year 1977 is critical and should remain. It is needed to permit continuation of construction of the \$437 million Aeropropulsion Systems Test Facility authorized in fiscal year 1977 for the Arnold Engineering Development Center, Tennessee. Without this increased authority, further construction would have to be terminated. We would propose that the language already submitted be expanded to identify the fiscal year 1977 increase as specifically applying to the Arnold Engineering Development Center. It is proposed that the following language be added:

Section 301 of the Military Construction Authorization Act, 1977 (Public Law 94-431; 90 Stat. 1355) is amended under the heading "Inside the United States" by striking out "\$439,010,000" in the item relating to Arnold Engineering Development Center Tennessee, under the subheading "Air Force Systems Command" and inserting in lieu thereof "\$504,010,000."

Senator THURMOND. Is NATO constructing essential operating facilities at the expense of MEF at other locations?

General WRIGHT. To address the questions on Collocated Operating Bases (COB) Minimum Essential Facilities (MEF) vs Essential Operating Facilities (EOF) and Airfield Survivability Measures (ASM) priorities, one must consider historical data which is not readily obvious. USAFE has defined MEF as that ammo, POL and dispersal pavements included within the NATO EOF. EOF includes all other NATO eligible facilities with the exception of ASM. NATO defines ASM as semihardened aircraft shelters, POL truck shelters and LOX storage. The COB construction program has been aggressively pursued from the inception of the program in the mid 70's. We have programmed all NATO eligible work as soon as possible. There has been a steady increase in the U.S. commitment of forces to NATO as part of the COB program. For instance, in the southern region, we had three COB's in DPQ 76. EOF for these three COB's were programmed and funded by NATO in slices 28 to 30. Several other southern region COB's which receive forces which were committed in defense planning questionnaire (DPQ) 77 and 78 have also been supported by NATO in slices 31 and 32. DPQ 80 commits forces at 17 COB's in the southern region.

During the late 70's, we were successful in programming EOF (which includes MEF) at 21 COB's through slice 32. NATO has never failed to support our EOF projects for assigned forces (this excludes earmarked forces) up to this point. The crux of today's problem is the severe shortage of funding for the remainder of this slice group. In formulating slice 33, SACEUR has, in fact, limited support for assigned reinforcing forces to the basic MEF level at several bases. This action, was taken to spread available funding to more bases. We view this as an indication that our action in requesting COB MEF prefinancing will be more readily supported by SACEUR in future slices when NATO funding is available for recapment. The remaining funds for this slice group are being dedicated to new mission beddowns such as GLCM, F-16 and F-111 conversions for the USAFE; and the Army's POMCUS and TR-1 programs. The SACEUR priorities are consistent with U.S. priorities in this regard. We are very simply faced with the dilemma of providing construction for our DPQ Commitment. At the current funding level, we anticipate little or no COB EOF project funding in slices 33, 34, and 35.

We feel that progress in the past on COB EOF has been acceptable. Since slice 27, we have received \$169M for EOF including approximately \$80M for MEF. The MEF request being considered today is an interim measure to ensure progress during the austere period of the last three years of this slice group. The MEF package is not envisioned as a long term solution to our construction requirements. At best, it will allow us to deploy aircraft to these bases to operate in the barest of minimum support for contingency operations. Without MEF or some work around provisioning of what may, or may not, in fact, be available due to the dependency on long-lead mobilization time—our CONUS augmentation forces could not be accepted for beddown. We have not requested

the larger EOF or ASM requirements at this time. The magnitude of the EOF and ASM runs well over \$1 billion, and cannot be justified in light of other programs competing for MCP funds. The COB MEF request is; therefore, our only hope for progress. Over one-half of the proposed prefinanced package is in support of additional forces assigned to NATO in recent DPQ's. If the NATO assigned forces in today's DPQ had been assigned in DPQ 78 or sooner, we would, in all likelihood, have NATO approved funding for those forces today at the full EOF level.

The compelling urgency we place on the need for MEF is to at least achieve the absolute minimum facility construction to beddown our DPQ forces planned for 1985—even though these are bare boned combat operating standards. The alternative to this is to stay with NATO infrastructure funding channels and the net result would be that MEF would not be completed before the 1988 to 1990 time frame. There is obvious military planning required by this deferment that we think should be avoided if at all practical. It is in this light that prefinancing does indeed support U.S. interests and U.S. forces that might not otherwise be supportable in a 1984-1988 time frame contingency.

Senator THURMOND. Maybe we should not go any further at this point and continue in executive session. I think we had better clear the room now.

I will leave it to the Air Force people to see that everybody here is cleared. We will take a 3-minute recess in order to clear the room.

[Whereupon, at 11:55 a.m., the hearing was recessed, and the subcommittee proceeded into executive session.]

EXECUTIVE SESSION

Present: Senator Thurmond.

Staff present: James C. Smith, professional staff member, and Marie Fabrizio Dickinson, staff assistant.

Also present: Greg Pallas, assistant to Senator Exon.

Senator THURMOND. General Wright, what specific capability are you seeking to add for Diego Garcia.

STATEMENT OF BRIG. GEN. CLIFTON D. WRIGHT, DEPUTY DIRECTOR OF ENGINEERING AND SERVICES, U.S. AIR FORCE—Continued

General WRIGHT. Let me put the slide up.

Senator THURMOND. If it is too detailed, you may submit it for the record.

General WRIGHT. We have a vugraph [deleted] that I think will help you.

Major Cirillo will point to the upper right-hand corner which is the total of Diego Garcia, the total island. The portion in red is what you see essentially down in the lower left-hand corner. The airfield at Diego Garcia will be upgraded with the fiscal year 1982 money as follows. We will beef up the taxiway shown in red which parallels the runway. We will expand the aircraft parking apron and do dredging and reclamation to fill the area to expand the parking apron.

Senator THURMOND. That enlarges the island, does it not?

General WRIGHT. Yes, sir. We will put a hydrant refueling system on the parking apron. We will construct a hazardous cargo pad. This is

for unloading hazardous cargo from transport aircraft. And we will provide additional airfield lighting. [Deleted.]

Sir, I stand corrected. At the end of additional work in fiscal year 1983, which will follow on this program, that will beef up the primary runway, [deleted]. That is the classified part of the discussion, Mr. Chairman.

Senator THURMOND. Is there anything else about your capability that you want to mention?

General WRIGHT. No, sir.

Senator THURMOND. As long as we are in executive session we will stay in executive session.

General WRIGHT. Do you have any further questions?

Senator THURMOND. Why are you seeking to add capability for [deleted].

General WRIGHT. [Deleted.] This would give us an operating base about 2,500 to 3,000 nautical miles from the Persian Gulf area.

Senator THURMOND. [Deleted.]

General WRIGHT. Yes.

Senator THURMOND. How much would it cost [deleted]. If you want to provide a breakdown for the record you may do so.

General WRIGHT. \$78 million, Mr. Chairman.

[Additional information follows:]

DIEGO GARCIA

[Deleted.]

Should a decision be made today, to make Diego Garcia [deleted] we would estimate that it could cost \$78.5 million. The construction would be divided over 3 years with a \$39.0M requirement in fiscal year 1982, a \$32.1M requirement in fiscal year 1983 and a \$7.4M program in fiscal year 1984.

Senator THURMOND. Is that cost effective?

General WRIGHT. Sir, that is a difficult question. I think yes, it is, to provide us the capability to project power in the Indian Ocean area.

Senator THURMOND. If you have any doubt about that would you submit an answer for the record?

General WRIGHT. I think it is cost effective, sir.

Senator THURMOND. Have the British been consulted [deleted].

General WRIGHT. Yes, sir, the British have been consulted [deleted].

[Additional information follows:]

Senator THURMOND. What is the total Air Force construction cost to upgrade Diego Garcia as you now know your requirements?

General WRIGHT. Our current estimated construction program at Diego Garcia is \$185.8 million over a four year period (fiscal year 1981-4). The breakout by fiscal year is: fiscal year 1981—\$23.7M; fiscal year 1982—\$115.0M; fiscal year 1983—\$36.9; fiscal year 1984—\$10.2M.

Senator THURMOND. How much is in your fiscal year 1982 request for Ras Banas, Egypt?

General WRIGHT. Sir, for Ras Banas, Egypt, we are asking for \$70.4 million.

Senator THURMOND. What is your total cost for construction at Ras Banas, Egypt as you now see it?

General WRIGHT. Sir, our total requirement is about \$285 million. That is an Air Force requirement at Ras Banas.

[Additional information follows:]

EGYPT

Our current construction program at Ras Banas totals \$285.0 million over 3 years; \$70.4M in fiscal year 1982, \$144.4M in fiscal year 1983 and \$70.2M in fiscal year 1984.

Senator THURMOND. What specific capability do you see to build at that location?

General WRIGHT. Are we still in executive session?

Senator THURMOND. Yes. We are still in executive session.

General WRIGHT. Sir, our objective is to provide capability for a [deleted] out of Ras Banas. We will [deleted] also at Ras Banas.

Senator THURMOND. Do we have a formal written agreement with the Egyptian Government on the United States use of Ras Banas?

General WRIGHT. Sir, I have Mr. Teicher from ISA here to address that question.

STATEMENT OF HOWARD TEICHER, OSD/INTERNATIONAL SECURITY AFFAIRS

Mr. TEICHER. We have reached agreement in principle with the Egyptian Government on how to proceed with the agreement. [Deleted.]

Senator THURMOND. I believe you are seeking a [deleted].

General WRIGHT. Sir, that decision is being evaluated at the present time. [Deleted.]

Senator THURMOND. Do you think you need one there also?

General WRIGHT. Yes, sir, speaking personally now, not speaking of the Defense Department, but that decision is being reassessed at this point.

Senator THURMOND. Has the Egyptian Government agreed to the [deleted].

Mr. TEICHER. The Egyptian Government is aware that we are [deleted].

Senator THURMOND. Have they agreed to it?

Mr. TEICHER. [Deleted.]

Senator THURMOND. I think we will move on to another location. How much is in your request for construction of the Lajes Air Force Base in the Azores?

General WRIGHT. In the fiscal year 1982 program we have \$49.6 million.

Senator THURMOND. What will be the total cost to upgrade this base to meet the needs of the Rapid Deployment Force?

General WRIGHT. \$142 million.

Senator THURMOND. What specific capability are you seeking to achieve at Lajes Air Force Base?

General WRIGHT. Sir, primarily we are attempting to increase our throughput capability for Military Airlift Command from [deleted] C-141 equivalent to [deleted] C-141 equivalent sorties per day.

Senator THURMOND. There have been recent press reports that the Portuguese Government would not let us use Lajes Air Force Base in any Mideast contingency where we were supporting Israel. Are you aware of these reports and do they jeopardize our capability to support the Rapid Deployment Force?

General WRIGHT. May I ask Mr. Teicher to address that again please.

Mr. TEICHER. We are aware of the recent press reports.

[Deleted.]

Senator THURMOND. Thank you.

What form of agreement do we have with the Portuguese on the use of Lajes Air Force Base?

General WRIGHT. Sir, there is an agreement with the Portuguese Government for the use of Lajes but this agreement I believe is the agreement that is currently being reassessed.

Senator THURMOND. In other words, you have the agreement but they are now reconsidering or reappraising that agreement with a view to change.

General WRIGHT. Yes, sir.

Senator THURMOND. Would you provide for the record a copy of the agreement that we have with the Portuguese for use of Lajes Air Force Base. You do have a week for this submittal and maybe by then you will have an answer that is more definite. The Secretary of State ought to be back by then.

General WRIGHT. We hope so, sir.

[The information follows:]

LAJES AGREEMENT OF 1951

The agreement follows. The Lajes Agreement of 1951, as amended, indicates that a vast majority of the U.S. missions into and out of Lajes are NATO-related. We and the Portuguese consult on other non-NATO and sensitive flights, as appropriate.

EMBASSY OF THE UNITED STATES OF AMERICA,

Lisbon, June 18, 1979.

His Excellency Ambassador JOAO DE FREITAS CRUZ,
Minister of Foreign Affairs, Lisbon.

EXCELLENCY: I have the honor to acknowledge receipt of Your Excellency's note of June 18, 1979, which stated the following:

"I have the honor to refer to the joint statement released in Lisbon and New York on September 27, 1977, affirming the intention of the governments of Portugal and the United States to conclude negotiations at the earliest possible date with the purpose of extending arrangements under the defense agreement between Portugal and the United States of September 6, 1951, as amended, for use by the United States of facilities related to the Lajes base in the Azores.

"I have the honor to propose that the continued use by American forces of these facilities be authorized by the government of Portugal for a period of nine years dating from February 4, 1974. The use of such facilities will continue to be regulated by the mutual arrangements agreed upon by our two governments, including those affirmed and described in the letter of the Foreign Minister of Portugal dated December 29, 1962. Either party may propose the commencement of conversations regarding use of such facilities beyond the period described in this note six months before the expiration of such period, but no determination that a negative result has arisen in such conversations shall be made for at least twelve months following the expiration of such period. In the event neither party proposes the commencement of further conversations, a negative result shall be deemed to have arisen upon the expiration of the period described in this note.

"I have the further honor to propose that, if acceptable to Your Excellency's government, this note, together with Your Excellency's confirming reply, shall constitute an agreement between our two governments effective upon the date of Your Excellency's reply. Accept Excellency, the assurances of my highest consideration."

I wish to inform Your Excellency that the government of the United States of America accepts the proposal of Your Excellency's government and agrees that

Your Excellency's note and this reply shall constitute an agreement between our two governments effective June 18, 1979.

Accept, Excellency, the assurances of my highest consideration.

CYRUS R. VANCE.

EMBASSY OF THE UNITED STATES OF AMERICA,
June 18, 1979, Lisbon.

His Excellency Ambassador JOAO DE FREITAS CRUZ,
Minister of Foreign Affairs, Lisbon.

EXCELLENCY: I have the honor to refer to the agreement of September 6, 1951, as amended, pursuant to which the United States is granted use of facilities at the Lajes base.

In accordance with Article I of that agreement the United States is prepared to enter promptly into conversations with the government of Portugal for the purpose of reviewing the technical arrangements of 15 November 1957, and annexes.

Concerning the regulation of labor relations resulting from the use of facilities at the Lajes base, the United States is also prepared to enter promptly into conversations with the government of Portugal for the purpose of reviewing the labor relations aspects of technical arrangements applicable to those facilities, with consideration being given to existing Portuguese legislation on the matter.

Accept, Excellency, the renewed assurances of my highest consideration.

CYRUS R. VANCE,
Secretary of State.

DEPARTMENT OF STATE, DIVISION OF LANGUAGE SERVICES

[Translation; LS No. 090811-A, JEK/WD, Portuguese]

MINISTRY OF FOREIGN AFFAIRS,
OFFICE OF THE MINISTER,
LISBON, June 18, 1979.

His Excellency CYRUS VANCE,
Secretary of State of the United States of America.

EXCELLENCY: I have the honor to acknowledge receipt of Your Excellency's note of June 18, 1979, the text of which is as follows:

[The Portuguese translation of Secretary Vance's note of June 18, 1979, agrees with the original English text in all substantive respects.]

I inform Your Excellency that the Portuguese Government concurs with the content of the foregoing note and is equally prepared to enter promptly into the aforesaid conversations.

Accept, Excellency, the assurances of my highest consideration.

JOAO DE FREITAS CRUZ,
Minister of Foreign Affairs.

DEPARTMENT OF STATE, DIVISION OF LANGUAGE SERVICES

[Translation; LS No. 090811-B]

[The English translation of Foreign Minister Freitas Cruz's note of June 18, 1979, agrees with the original Portuguese text in all substantive respects.]

DEPARTMENT OF DEFENSE,
UNITED STATES FORCES AZORES,
HEADQUARTERS OF THE COMMANDER,
APO New York, July 31, 1979.

Forwarding of International Agreement.
OFFICE OF THE SECRETARY OF DEFENSE,
GENERAL COUNSEL,
THE PENTAGON,
Washington, D.C.

1. Three copies of attachment are forwarded in accordance, with Paragraph IVA of DOD Directive 5530.3 and Paragraph 9 of AFR 11-21.

2. The following is submitted as required:

a. Amendment to the Portuguese-American Labor Regulation of 1976 between Commander United States Forces Azores and Commander Azores Air Command.

- b. Unclassified.
- c. Provides for a prorated payment of Christmas subsidies to Portuguese Nationals employed by the United States Forces Azores on Terceira Island, Azores.
- d. Commander Azores Air Command for the Portuguese Air Force.
- e. Amendment notes that employees of USFORAZ will receive a Christmas subsidy equal to 100% of their monthly pay. Individuals who have been employed for less than one year, whether commencing or terminating employment will be paid a sum proportionate to their months of service. Additionally, it is noted that at time of severance, the employees will receive a Christmas and vacation subsidy proportionate to their service during the year in which severed.
- f. Amendment dated 16 July 1979.
- g. Date in force 16 July 1979.
- h. Indefinite.
- i. An amendment to an existing agreement provided for in Article 1 of the Defense Agreement of 1951.
- j. COMUSFORAZ (JO7) Staff Advocate.

Brig. Gen. RICHARD T. DRURY,
Commander, USAF.

MEMORANDUM OF AGREEMENT

Pursuant to Article 67 and Article 79 of the Portuguese-American Labor Regulation of 1976 signed 20 May 1976, the following portions of the Regulation have been reviewed and are considered for revision, subject to approval of higher authorities.

1. Article 67 is changed to read as follows: "All employees shall receive a Christmas subsidy equal to 100 percent of their monthly pay, payable on the first pay day in December. Employees who have completed their trial period, but do not yet have on year by 31 December will receive a sum, proportionate to their months of service. Upon termination of the work contract, USFORAZ will pay the worker, who has completed the trial period, the remuneration equivalent to a proportional period of the time in service during the year of termination, unless the reason for termination is for just cause, in which case the employee shall receive no remuneration."

2. Article 79, paragraph d, second sentence is changed to read: "Additionally, at the time of severance, the employee shall receive a partial vacation subsidy and a partial Christmas bonus proportionate to the months worked during the year in which severed."

3. Provisions contained herein are to be effective as of 1 October 1978. The English and Portuguese texts at this agreement are equally authentic.

Signed at Lajes, Terceira, Azores, by the accredited representatives of the Portuguese Government and the United States Government on 16th of July 1979.

Chief of Staff, Portuguese Air Force represented by the Commander Azores Air Command.

Brigadeiro FERNANDO L. P. DE MOURA CARVALHO,
Phil. Av., PAF Commander, Azores Air Command.

The Secretary of the Air Force of the U.S. Department of Defense represented by COMUSFORAZ.

Brig. Gen. RICHARD T. DRURY,
USAF Commander, U.S. Forces Azores.

Certified to be a true copy.

LT. RICHARD BARAJAS,
JAGC, USNR COMUSFORAZ (JO7),
Assistant Legal Affairs Officer.

Senator THURMOND. Now how much is in your fiscal year 1982 request for Oman?

General WRIGHT. \$78.5 million.

Senator THURMOND. What is your total cost for Oman as you now see it?

General WRIGHT. \$235 million, sir.

[Additional information follows:]

OMAN

Our current construction program for Oman totals \$225.4 million over 3 years; \$85.5M in fiscal year 1981; \$78.5M in fiscal year 1982 and \$71.4M in fiscal year 1983.

Senator THURMOND. What specific capabilities are you seeking to provide in Oman?

General WRIGHT. [Deleted.]

Senator THURMOND. You have three locations in Oman?

General WRIGHT. Yes, sir. There is a smaller air base way up on the northern tip that has a very short runway.

Senator THURMOND. Is that a possession of Oman?

General WRIGHT. Yes, sir, that is a part of Oman even though it is not contiguous to the major part of the country.

Senator THURMOND. That would make a poor location?

General WRIGHT. Yes, sir. We are not doing any work at Khasab in the 1982 program. We did some work up there with funds provided from the DOD contingency fund in fiscal year 1981.

Senator THURMOND. Are you seeking to have a B-52 capability there?

General WRIGHT. No, sir.

Senator THURMOND. Is there anything else you want to tell the committee now?

General WRIGHT. No, sir. I think that covers Oman.

Senator THURMOND. I want to thank you gentlemen for your appearance here. Your testimony will be very helpful to the Military Construction Subcommittee when it prepares its recommendations. I thank all of you.

General WRIGHT. Thank you, Mr. Chairman.

Senator THURMOND. At this time, I will include in the record testimony from Representative Robert T. Matsui, Third District, California and also a statement from Maj. Gen. Francis S. Greenlief (Ret.), Executive Vice President of the National Guard Association of the United States. We stand adjourned.

[The statements follow:]

PREPARED STATEMENT OF ROBERT T. MATSUI

Mr. Chairman, it is a pleasure to testify before the Senate Armed Services Subcommittee on Military Construction on behalf of the Depot Hydraulic Facility construction project for McClellan Air Force Base in Sacramento, California. The Depot Hydraulic Facility is vital to the maintenance of U.S. military aircraft throughout the world and will result in cost savings in the millions of dollars. It will modernize and streamline repair and maintenance of complex hydraulic/pneumatic components on Air Force aircraft.

The facility is a high priority of the Air Force Logistics Command, and I request that the subcommittee authorize the \$12 million necessary for this project in the fiscal year 1982 military construction authorization bill.

McClellan Air Force Base is the major center in the country for specialized repair of complex hydraulic/pneumatic components. These components are part of aircraft landing gear, wing flaps, rudder controls and other critical flight systems. McClellan services and repairs components for such aircraft as the A-10, B-52, C-5, C-141, F-4, F-15, F-16, and F-111. Through its handling of 50,000 major repair items annually, McClellan serves a crucial role in keeping U.S. aircraft stationed worldwide in top flying form. The facility employs 300 workers, nearly all of whom are civilians from the local community.

The repair center at McClellan is housed in two buildings, No. 355 and No. 243-A, that are one-half mile apart. Building 355 is a 42-year-old converted wood

mill that is antiquated and not worth updating or expanding. Building 243-A was constructed in 1970 to handle a workload that McClellan is already exceeding by 49 percent. By fiscal year 1984, the workload is expected to increase by another 19 percent. Clearly, the facility is not capable of absorbing that additional demand.

To remedy the inefficiency of using two buildings and the inability of the facility to absorb additional workload, McClellan Air Force Base proposes a new 100,000 square foot facility to consolidate and modernize repair functions. Consolidation and expansion will streamline production flow and ensure McClellan's ability to handle the volume of current and future aircraft maintenance needs. Installation of modern, automated test equipment will allow McClellan to keep pace with the latest technological developments and insure the highest quality of repair.

As a result of greater efficiency, capability and better use of equipment and personnel, the new facility would result in savings of more than \$1 million per year. In addition, there would be a one-time cost saving of \$10.8 million from cost avoidance. Cost of the Depot Hydraulic Facility would thus be amortized in less than two years.

If the Depot Hydraulic Facility is not authorized and funded for 1982, it will be reinserted in the fiscal year 1983 Air Force budget at an estimated cost of \$13.3 million, an increase of \$1.3 million from inflation. In addition, Building 243-A would not be usable for the expansion of two other high priority operations on-base: bonded honeycomb repair work on the F-111 and generator repair work for all types of Air Force aircraft. If Building 243-A is not usable, these operations would require \$12.4 million in new construction. Taking into account the \$1.6 million in conversion costs of 243-A, avoidance of this new construction would save a net \$10.8 million.

At a time in our history when we are deeply concerned with ensuring defense capability and readiness, investment in McClellan's Depot Hydraulic Facility makes good sense. While increasing output and quality of repair for critical components of military aircraft, the new facility would also ensure the ability to handle current and future repair needs. Moreover, construction of the new facility would result in cost savings in the millions of dollars: a one-time saving of \$10.8 million the first year, and an annual saving of \$1 million thereafter.

For our national defense, as well as increased efficiency, modernization and cost savings, I urge the subcommittee's support for the Depot Hydraulic Facility at McClellan Air Force Base.

PREPARED STATEMENT BY MAJ. GEN. FRANCIS S. GREENLIEF (RET.), EXECUTIVE VICE PRESIDENT OF THE NATIONAL GUARD ASSOCIATION OF THE UNITED STATES

Mr. Chairman, and members, I am Maj. Gen. (Retired) Francis S. Greenlief, Executive Vice President of the National Guard Association of the United States. I appreciate this opportunity to present the views of our membership on military construction for the National Guard.

GENERAL

In August of 1970, Melvin Laird, then Secretary of Defense, announced the Total Force Concept as an important element of national defense policy. He announced that many Active Army and Air Force units would be inactivated and that the wartime missions of those Active units would be passed to the National Guard and Reserves. Although the stated purpose of this increased reliance on the Guard and Reserves was to reduce defense expenditures, the Secretary of Defense gave specific guidance to the Service Secretaries, requiring them to provide resources to the Guard and Reserves to permit them to accomplish their missions. Included in this guidance was this statement:

"Implement the approved ten-year construction programs for the Guard and Reserves, subject to their accommodation within the currently approved TOA, with priority to facilities that will provide the greatest improvement in readiness levels."

After 10 years of Total Force Policy planning, programing, and financing, the Army National Guard (ARNG) provides more than 50 percent of the Army's deployable combat forces. The Air National Guard (ANG) provides: 65 percent of Air Force air defense fighter interceptors; 57 percent of Air Force tactical

reconnaissance aircraft; 30 percent of Air Force tactical airlift aircraft; 27 percent of Air Force tactical fighter aircraft; 17 percent of Air Force strategic tanker aircraft.

Also after 10 years, the ARNG military construction backlog stands at \$740 million (end fiscal year 1981), and the ANG military construction backlog stands at \$490 million (end fiscal year 1982).

PROGRAM EXECUTION

During fiscal year 1980, the ARNG obligated 80 percent of its available appropriation carrying over \$5 million to fiscal year 1981. The ARNG obligation target for fiscal year 1981 is \$44.8 million. This program can be fully obligated leaving only a carryover of \$2.4 million to fiscal year 1982.

The ANG has obligated 77 percent of its fiscal year 1980 construction program, and expects to obligate 85 percent of its fiscal year 1981 program by September 30, 1981. These obligation rates permit a carryover into succeeding years which is minimal, but facilitates year round construction planning and execution.

Although program execution by the National Guard Bureau and the States is exemplary, the construction backlog continues to grow.

The Congress has generously added authority and funding for National Guard construction to that included by a series of Administrations in their budget requests, and yet the backlog continues to grow. What is needed is an annual construction program for the Army and Air Guard which provides authority and funding each year which exceeds the amount of inflation growth by at least 10 percent.

FISCAL YEAR 1982 AUTHORIZATION REQUEST

ARNG

The fiscal year 1982 Department of Defense (DOD) budget requests authorization of \$41.5 million for Military Construction ARNG. This program will permit construction of 23 armories and 36 non-armory facilities in 29 States and the Virgin Islands. The \$47 million appropriation requested will support the authorization requested as follows:

	<i>Estimated Federal contribution (millions)</i>
23 armory projects.....	\$17.0
36 nonarmory projects.....	24.5
Minor construction.....	4.0
Planning	1.5
Total	47.0

ANG

The fiscal year 1982 DOD budget requests authorization of \$78.7 million for Military Construction ANG. This program will permit construction of 51 projects at 34 locations in 29 States. The \$89.1 million appropriation requested will support the authorization requested as follows:

	<i>Estimated Federal contribution (millions)</i>
15 operations projects.....	\$21.65
17 maintenance projects.....	34.27
5 training support projects.....	14.56
10 general support projects.....	7.04
4 energy conservation projects.....	1.2
Minor construction.....	5.0
Planning	5.4
Total	89.1

FISCAL YEAR 1981 ANG SUPPLEMENTAL REQUEST

We strongly support the fiscal year 1981 ANG Supplemental Request of \$6.5 million for Barnes Municipal Airport, Massachusetts, and four other projects. These projects are urgently needed to maintain ANG readiness.

RECOMMENDATIONS FOR ADDITIONAL AUTHORIZATION

ARNG

We recommend that an additional \$16.08 million be provided for ARNG construction. At TAB A is a list of projects that are urgently needed. The status of design of these projects meet DOD criteria for submission to Congress. All other DOD criteria for submission to Congress are met by these projects except for fund availability in the fiscal year 1982 budget request, with the exceptions of the armory project at Stillwater, Okla.

DOD has disapproved construction of an armory at Stillwater, Oklahoma, on the basis that joint construction with the United States Army Reserve would save money. Information furnished by the Adjutant General of Oklahoma demonstrates that unilateral construction would save \$182,300 compared to the cost of joint construction. A copy of that information is included in TAB A.

ANG

The DOD-requested fiscal year 1982 ANG military construction program represents a significant increase over past years. We are appreciative of Air Force and DOD recognition of the importance of an adequate ANG military construction program. However, many urgently needed projects will remain unfunded in fiscal year 1982.

At TAB B is a list of 32 urgently needed projects for which design work will be completed by June 30, 1981. The total cost of these projects is estimated to be \$55.3 million. These projects can be placed under contract in fiscal year 1982 if authorized and funded. We urge your consideration of these projects for additional authorization.

SUMMARY

Mr. Chairman, we are appreciative of the support your committee has provided for the National Guard military construction program. Your actions have improved the readiness of the National Guard.

I will be pleased to attempt to answer your questions.

TAB A

URGENTLY NEEDED ARNG CONSTRUCTION PROJECTS FOR WHICH NGAUS RECOMMENDS AUTHORIZATION AND APPROPRIATIONS BE ADDED FOR FISCAL YEAR 1982

State and location	Project	Design	CWs thousand
Alabama: Fayetteville	200 person armory	F	\$652
Arkansas:			
Fayetteville	Armory addition	P	380
Camp Robinson	Utilities upgrade	P	441
Connecticut:			
Southington	OMS	F	340
Do	Armory parking	F	31
Illinois: Springfield	600 person armory	F	2,432
Massachusetts: Camp Edwards	BKS/tank tables ranges	P	736
Michigan:			
Camp Grayling	Ammo storage	P	1,500
Do	Access road	P	120
New York: Fort Drum	Cantonment renovation	F	971
Oklahoma:			
Atoka	150 person armory	P	655
Bartlesville	100 person armory	P	560
Vermont: Camp Johnson	USPFU addition (phase)	P	175
Alabama: Vernon	100 person armory	P	449
Arizona:			
Kingman	Armory addition	P	587
Sunnyslope	do	P	709
Georgia: Springfield	do	P	182
Michigan: Camp Grayling	Logistic facility	P	2,041
Oklahoma: Tahlequah	100 person armory	P	570
Michigan:			
Muskegon	200 person armory	F	698
Do	MVSB	F	891
Do	OMS	F	201
Oklahoma: Stillwater	150 person armory	P	754
Total			16,075

STATE OF OKLAHOMA,
MILITARY DEPARTMENT,
Oklahoma City, Okla., March 9, 1981.

Subject: Stillwater, Oklahoma National Guard Armory

Mr. FRED ARON,
Chief, Army Installations Division,
Aberdeen Proving Ground, Md.

1. This memo will readress the cost figures for unilateral construction versus joint construction for a new armory for the National Guard in Stillwater. The figures for the reorganized unit represent the current authorized strength and address the question of building a new armory or adding on to the present USAR building.

2. The 1/170 Inf Bn of the 45th Inf Bde has authorized strength of 133 people. The construction cost currently used by the Corp of Engineers for new construction is \$56.23 per sq ft and add on construction on Corp of Engineers jobs runs as high as \$70.00 per sq ft. For this estimate we have reduced these figures to \$32.00 per sq ft for new National Guard construction and \$49.00 per sq ft for add on construction. The construction figures are as follows:

	Unilateral construction (square feet)	Construction cost	Additional joint expansion (square feet)	Cost
Schedule I:				
Assembly hall.....	6,300	201.6	2,986	146.3
Rifle range.....	2,300	73.6	2,300	112.7
Class room.....	1,000	32.0	(1)	
Library-classroom.....	250	8.0	250	12.3
Learning center.....	250	8.0	250	12.3
Administrative.....	800	25.6	800	39.2
Locker room.....	1,500	48.0	1,500	73.5
Training aids storage.....	140	4.5	146	6.9
Unit storage.....	1,930	61.8	1,930	94.6
Food storage.....	125	4.0	125	6.1
Food preparation.....	300	9.6	140	7.0
Scullery.....	140	4.5	140	7.0
Toilet and showers.....	500	16.0	154	7.6
Public toilets.....	200	6.4	101	5.0
Facility maintenance.....	300	9.6	272	13.3
Mechanical.....	500	16.0	500	24.5
Flammable mat storage.....	120	3.8	120	5.9
Subtotal.....	16,655	533.0	11,700	614.2
Schedule II:				
Battalion supply.....	1,000	32.0	1,000	49.9
Battalion offices.....	1,500	48.0	1,500	73.5
Army adviser office.....	230	7.4	230	11.3
Subtotal.....	2,730	87.4	2,730	133.8
Total I and II.....	19,385	620.4	14,430	708.0
Estimated circulation (15 percent).....	2,908		2,165	
Estimated wall space (10 percent).....	2,229		1,659	
Total.....	24,522	784.7	18,254	894.4
Supporting facilities:				
Site preparation.....		7.0		7.0
Grading and seeding.....				
Planting.....		10.0		10.0
Fencing.....			(1)	
Parking:				
MPV.....	1950	20.5	2 1,950	20.5
POV.....	2 3836	40.3	2 2,209	23.2
Flag pole.....	(2)	2.0	(1)	
Utilities.....		7.0	(1)	30.0
Sidewalks.....		4.0		4.0
Fuel dispensing system.....		9.0		9.0
Subtotal.....		897.1		1,011.0
Contingency (5 percent).....		44.8		50.5
Total cost.....		941.5		1,061.5
Architect-engineer fees paid.....		32.6		32.6
Additional A. & F. if joint construction.....				62.3
Total project cost.....		\$ 974.1		\$ 1,156.4

¹ Use existing.

² Square yards.

³ 1 each.

⁴ Expand lagoon.

⁵ Unilateral.

⁶ Joint.

This represents a savings of \$182,300 by building a separate facility for the Stillwater Armory.

For the Commander in Chief.

ROBERT M. MORGAN,
MG (OK), AGC, OKARNG,
The Adjutant General.

TAB B

URGENTLY NEEDED ANG CONSTRUCTION PROJECTS FOR WHICH NGAUS REQUEST CONSIDERATION FOR
ADDITIONAL AUTHORIZATION AND APPROPRIATIONS TO BE ADDED FOR FISCAL YEAR 1982

State and base	Project	CWE (million)
Alabama:		
Birmingham MAP	Alter support equipment shop	\$580
Do	Electrical distribution system	520
Dannelly Field	Operations and training facility	1,200
Martin ANG (Gadsden)	Support equipment shop	540
District of Columbia:		
Andrews AFB	Weapons and release systems shop	1,430
Do	Fuel system maintenance/corrosion control dock	1,380
Georgia:		
Hunter Army Air Field	Communication-electronics training facility	1,520
Savannah MAP	Fuel system maintenance/corrosion control dock	2,670
Illinois: Chicago-O'Hare IAP	do	3,200
Iowa:		
Des Moines MAP	Multipurpose operations/maintenance facility	3,900
Sioux City MAP	Munitions/maintenance/storage facility	910
Minnesota:		
Duluth IAP	Combined telecommunication center/weapon system security flight facility	1,000
Minneapolis-St. Paul IAP	Base supply and equipment warehouse/comptroller	3,100
Do	Aerial port training facility	1,000
Nevada: Reno IAP	Telecommunications center	560
New Jersey: Atlantic City NAFEC	Operations and training/medical training and administration/dining hall	3,140
New Mexico:		
Kirtland AFB	Fuel system maintenance/corrosion control dock	1,300
Do	Base engineer maintenance facility	1,000
New York: Schenectady MAP	Telecommunications center	560
Pennsylvania: Harrisburg IAP	Composit squadron operations/telecommunications center	2,900
Tennessee:		
McGhee-Tyson Airport	Operations and training facility	2,120
Do	Composite squadron operations	2,320
Memphis IAP	Fuel system maintenance/corrosion control dock	2,800
Do	Jet fuel operating storage/POL operations facility	1,250
Do	Composit squadron operations	2,000
Nashville MAP	Fuel system maintenance/corrosion control dock	2,800
Texas:		
Dallas NAS	do	2,800
Ellington AFB	Alter hangar for avionics	450
Do	Automotive maintenance/refueling vehicle shop	1,210
Kelley AFB	Fuel system maintenance/corrosion control dock	1,300
Virginia: Byrd Field	Base engineer maintenance facility	1,050
West Virginia: Eastern West Virginia Regional Airport (Martinsburg)	Fuel system maintenance/corrosion control dock	2,800
Total		55,310

[Whereupon, at 12:10 p.m. the hearing was adjourned.]

MILITARY CONSTRUCTION AUTHORIZATION FISCAL YEAR 1982

TUESDAY, SEPTEMBER 29, 1981

U.S. SENATE,
SUBCOMMITTEE ON MILITARY CONSTRUCTION,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The subcommittee met in open session at 9:15 a.m., pursuant to notice, in room 212, Russell Senate Office Building, Senator Strom Thurmond, chairman, presiding.

Present: Senators Thurmond, Warner, Nunn, and Exon.

Also present: Senators Laxalt, Mattingly, and Sasser, Subcommittee on Military Construction of the Committee on Appropriations.

Staff present: Rhett B. Dawson, staff director and chief counsel; James F. McGovern, general counsel; Paul C. Besozzi, minority counsel; Frank J. Gaffney, Edward B. Kenney, Ronald F. Lehman, E. George Riedel, José Martinez, and James C. Smith, professional staff members; and Marie Fabrizio Dickinson, staff assistant.

Also present: Buzz Hefti, assistant to Senator Warner; Paul Schreiber, assistant to Senator Denton; Robert Nichols, assistant to Senator Jackson; Frank Krebs, assistant to Senator Cannon; Gray Armistead, assistant to Senator Robert C. Byrd; Arnold Punaro, assistant to Senator Nunn; Greg Pallas, assistant to Senator Exon; and Rick Pierce, Appropriations Committee Staff.

OPENING STATEMENT BY SENATOR STROM THURMOND, CHAIRMAN

Senator THURMOND. The committee will come to order.

The purpose of the hearing today is to receive testimony from the Defense Department and the military services with respect to reductions that have been proposed to the fiscal year 1982 military construction authorization bill, S. 1408, as reported this year by the Armed Services Committee.

The President has announced his intention to reduce the overall defense budget by \$2 billion in outlays in fiscal year 1982, and I can understand how part of that reduction might come from the military construction program. However, I am concerned that the military construction program may already be too austere in view of the tremendous backlog of construction requirements.

We cannot continue to defer investment in our base structure indefinitely. It is simply not cost effective to try and run our defense estab-

ishment from obsolete and even hazardous facilities. The American auto industry is a good example of what can happen if the capital investment program is underfunded or deferred too long.

This hearing will be an open session and I anticipate no need to get into classified material. If the witnesses feel we are getting into a classified area, I would caution them to so inform the Chair.

For the information of subcommittee members, it is my intention to use this hearing as a basis to draft a committee amendment which the committee could consider offering when S. 1408 is taken up on the Senate floor.

It is a pleasure to welcome Mr. James N. Juliana before this subcommittee.

Mr. Juliana, we have the pleasure today of having Senator Laxalt with us from the Appropriations Committee, who is chairman of the Military Construction Subcommittee of that committee. It is an honor to have him here. He may have an opening statement.

STATEMENT OF HON. PAUL LAXALT, A U.S. SENATOR FROM THE STATE OF NEVADA; CHAIRMAN, SUBCOMMITTEE ON MILITARY CONSTRUCTION OF THE COMMITTEE ON APPROPRIATIONS

Senator LAXALT. Very briefly, Mr. Chairman.

First of all, I would like to thank the subcommittee for allowing me to participate.

This hearing will prove helpful to all our members as well as prevent witnesses from making two appearances.

The Appropriations Committee's Subcommittee on Military Construction is being asked to consider an amendment to reduce \$298 million from the budget request for military construction in fiscal year 1982. While each reduction will be considered carefully, the most controversial reduction seems to be in the delay in the initial operating capability of the Trident submarine at Kings Bay, Ga.

I note that this matter, as well as the other requests, will be considered as we proceed with this hearing.

For the record, I would like to say that our subcommittee will work with the administration and the Defense Department to bring about the military construction appropriations bill which will meet the needs of the Department and keep the President's economic program on course.

The subcommittee will, however, carefully consider each proposal on its merits.

On behalf of the Appropriations Subcommittee, I would like also to welcome our primary witness, Mr. Juliana, of the Office of the Assistant Secretary of Defense. Your testimony will be very helpful to us.

I thank the chairman.

Senator THURMOND. Senator Warner, do you have an opening statement?

Senator WARNER. No, Mr. Chairman.

Senator THURMOND. Mr. Juliana, you may proceed.

STATEMENT OF HON. JAMES N. JULIANA, PRINCIPAL DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR MANPOWER, RESERVE AFFAIRS AND LOGISTICS, ACCOMPANIED BY BRIG. GEN. NORMAN DELBRIDGE, USA, ASSISTANT CHIEF OF ENGINEERS, U.S. ARMY CORPS OF ENGINEERS; REAR ADM. WILLIAM ZOBEL, USN, COMMANDER, NAVAL FACILITIES ENGINEERING COMMAND; BRIG. GEN. CLIFTON D. WRIGHT, USAF, DEPUTY DIRECTOR, ENGINEERING AND SERVICES, U.S. AIR FORCE; AND REAR ADM. FRANK KELSO, USN, DIRECTOR, STRATEGIC SUBMARINES DIVISION, OP 21, DEPARTMENT OF THE NAVY

Mr. JULIANA. Thank you, Mr. Chairman.

I am James N. Juliana, the Principal Deputy Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics. I have with me this morning Brig. Gen. Norman Delbridge, assistant chief of engineers, U.S. Army; Rear Adm. William Zobel, commander, Naval Facilities Engineering Command; and Brig. Gen. Clifton D. Wright, deputy director, engineering and services, U.S. Air Force.

Mr. Chairman and members of the committees, I am pleased to appear before you today to discuss the proposed reductions to the fiscal year 1982 military construction program as well as other subjects of interest to the committees.

At the outset I would like to assure you that the proposed reductions in no way lessen our determination to improve this Nation's defense. However, the perceived need for reductions in total outlays now compels us to seek further reductions in overall Federal Government spending. There are no other or programmatic reasons for the defense reductions. In short, our original budget was not too high.

The President's decision to reduce the current defense budget plan by \$2 billion in outlays for fiscal year 1982, \$11 billion for fiscal year 1983 and 1984, is part of the overall plan to maintain Federal spending at levels that can bring about a balanced budget in the future.

The fiscal year 1982 defense reductions involve the Milcon requests for the three military departments. There has been no change in our budget for defense agencies, NATO infrastructure, Guard and Reserve Forces or family housing and homeowners' assistance.

The total reduction in the Milcon request for authorization is \$116 million, and for appropriation about \$298 million. The appropriation reduction is larger because it includes items that do not involve authorization, such as planning and design, access roads, and savings derived from currency revaluations and favorable bids on prior-year projects.

I will briefly describe the reductions for each military department. A detailed listing of the proposed reductions is provided in the addendum to my statement.

The Army's proposed reductions result from the cancellation of the Roland program, \$31 million; deferral or cancellation of three other fiscal year 1982 projects totaling \$9 million; \$42 million of savings on prior-year projects and \$117 million from currency revaluations in Germany.

The Navy's proposed reduction involves planned construction related to the east coast Trident base at Kings Bay, Ga. A ship in the initial operational capability of Kings Bay permits deferral of \$74 million of the \$94 million of the fiscal year 1982 request which had in-

cluded \$65 million for construction, \$17 million for planning and design, and \$12 million for access roads.

The proposed Air Force reduction involves \$24 million which had been requested to prefinance NATO-eligible minimum essential air-field facilities at European collocated operation bases, COB's. While this reduction is prompted by the lack of committee support for the initial request, it must be stressed that these facilities are vital to the support of our NATO commitments.

NATO programing is not currently possible due to funding short-falls which limit support to only the highest priority projects, such as the deployment of the ground-launched cruise missile, GLCM.

Mr. Chairman, that completes my formal statement. However, the members of my staff and representatives of the military departments are here to answer any questions you may have.

Thank you.

[Addendum to prepared statement of Mr. Juliana follows:]

ADDENDUM TO STATEMENT BY JAMES N. JULIANA

FISCAL YEAR 1982 MILITARY CONSTRUCTION REDUCTIONS

(Dollar amounts in thousands)

Installation: Project description	Authorization	Appropriation
ARMY		
Fort Gordon, Ga.: Insulated drop ceiling.....	¹ 2 \$620	² \$620
Fort Leavenworth, Kans.: Renovate administrative building.....	¹ 2 6,700	6,700
Fort Bliss, Texas: Training facility—Roland.....	4,700	4,700
Hanau, Federal Republic of Germany: Battalion headquarters.....	2,150	2,150
Ramstein, Federal Republic of Germany:		
Direct support maintenance shop.....	3,250	3,250
Tactical equipment shop.....	5,450	5,450
Rhine Ordnance Barracks, Federal Republic of Germany: Tactical equipment shop.....	3,050	3,050
Sembach, Federal Republic of Germany:		
Tactical equipment shop.....	3,500	3,500
Barracks.....	2,100	2,100
Ammunition igloos.....	660	660
Weilerbach, Federal Republic of Germany: Ammunition igloos.....	2,900	2,900
Wiesbaden, Federal Republic of Germany: General support maintenance Facility.....	1,850	1,850
Zweibrücken, Federal Republic of Germany:		
Ammunition igloos.....	890	890
Tactical equipment shop.....	2,350	2,350
Germany:		
Currency revaluation fiscal year 1982.....	0	64,800
Reduction of currency reserve, fiscal year 1981 and prior.....	0	52,400
Various: Savings on fiscal year 1978-81 projects.....	0	42,230
Subtotal.....	40,170	199,600
NAVY		
NSB Kings Bay, Ga.:		
Utilities and site improvements.....	33,900	33,900
Dredging.....	13,000	13,000
General warehouse.....	2,600	2,600
Administrative building.....	2,350	2,350
Planning and design.....		10,500
Defense access roads.....		12,000
Subtotal.....	51,850	74,350
AIR FORCE		
Aalborg, Denmark:		
Ammunition igloos.....	1,558	1,558
Fuel storage.....	5,258	5,258
Soesterberg, Netherlands: Fuel storage.....	2,788	2,788
Lahr, Germany: Fuel storage.....	2,358	3,358
Gilze Rijen, Netherlands: Fuel storage.....	5,158	5,158
Jever, Germany: Fuel storage.....	958	958
Rygge, Norway: Ammunition storage.....	858	858
Andaya, Norway: Ammunition storage.....	1,906	1,906
Boda, Norway: Ammunition storage.....	2,158	2,158
Subtotal.....	² 24,000	² 24,000
Total.....	116,020	297,950

¹ Denied by HASC.

² Denied by SASC.

³ Denied by HAC.

The following table compares the authorization and appropriation requests for the Active Forces, the Guard and Reserve Forces, the Defense Agencies, NATO Infrastructure, and the family housing program, for fiscal year 1982:

DEPARTMENT OF DEFENSE

[Dollar amounts in millions]

	Reagan budget	Revision
Appropriations:		
Army.....	\$1,099.7	\$900.1
Navy.....	1,477.8	1,403.4
Air Force.....	2,225.4	2,201.4
Defense agencies.....	354.1	354.1
NATO infrastructure.....	385.0	385.0
Guard/Reserve Forces.....	236.2	236.2
Family housing and homeowners assistance.....	2,368.9	2,368.9
Total.....	8,147.1	7,849.1
Authorization:		
Army.....	849.6	809.4
Navy.....	1,175.3	1,123.5
Air Force.....	1,680.9	1,656.9
Defense agencies.....	326.1	326.1
NATO infrastructure.....	425.0	425.0
Guard/Reserve Forces.....	203.0	203.0
Family housing and homeowners assistance.....	2,368.9	2,368.9
Total.....	7,028.8	6,912.8

Senator THURMOND. Thank you.

I have a few questions here for the Army witness.

You show a reduction of \$64,800,000 in fiscal year 1982 projects in general as a result of currency revaluation. Can you explain how you arrived at this amount? If you want, you may provide the details for the record.

Mr. JULIANA. We can do that, but I defer to the Army to answer that in a more general way.

General DELBRIDGE. Thank you, Mr. Chairman.

We expect in the Army, sir, approximately \$117.2 million in savings. This is based on the difference in the amount that was originally programed as compared to the currency valuation as the projects were awarded in those particular years.

For example, in fiscal year 1979 the projects were programed at various rates from 2.245 marks to the dollar up to 2.5.

In fiscal year 1980 the programed amount was dropped to about 2.09 and in fiscal year 1981, 1.78. That was how we determined the amounts for the construction funds.

That is independent of what has actually happened to the value of the Deutsch mark, which has risen. For example, last week it was up to 2.31, which is a very favorable exchange rate.

Our savings are realized by figuring a difference between the old programed obligations rates and about 2.20 marks to the dollar, which gives us a savings, Mr. Chairman, of the \$117.2 million.

We have figured also the 1982 program at 2.20 marks to the dollar. So, those funds are actually savings to us.

Senator THURMOND. Should there not be a reduction in your authorized amount of \$64.8 million?

General DELBRIDGE. I am not sure I understand the question, Mr. Chairman. I would have to say this is somewhat of a calculated risk on our part, because we are never quite sure actually how the mark will fluctuate.

Senator THURMOND. You show a reduction in your appropriation but not in your authorization?

General DELBRIDGE. Yes, Mr. Chairman, we do.

Senator THURMOND. Shouldn't the authorization be reduced accordingly?

General DELBRIDGE. The authorization, Mr. Chairman, as I understand your question, is still desired. We are not really affecting the projects as such. These are fluctuating values and the difference in the amount between what we actually award the project at and what the appropriation amount is, is put into a revaluation or currency account that allows us, for example, should the mark plummet and we are below the amount that we had appropriated, to have funds sufficient to cover the bills on the project.

We are now taking a calculated risk just on those appropriated amounts for revaluation based on our optimism that the dollar will hold steady against the mark and that we will not need those funds to pay those bills.

Senator THURMOND. You still want the authorization?

General DELBRIDGE. Yes, sir.

Senator THURMOND. Now, if the Army can make reductions in fiscal year 1982, as a result of the currency revaluation situation, why can't some reduction be made by the other services on their projects in Germany, in the Navy infrastructure program? Probably the Department of Defense witness can answer that.

Mr. JULIANA. Mr. Chairman, these actions were taken by the services. I would like the Air Force to address that question also.

General WRIGHT. Sir, our program in Europe is not that large. The Army has a much larger program. I would have to look at it in detail and provide for the record any offsetting—

Senator THURMOND. I wish you would study this, not just shoot from the hip, but provide for the record the answer that you feel is correct under the circumstances.

General WRIGHT. We will do that, sir.

[The information follows:]

General WRIGHT. The Air Force has a much smaller program in those countries impacted by more favorable foreign exchange rates than does the Army. While there could be some savings (about \$5.6 million) if favorable rates continue, it is not appropriate to offer this reduction since the Air Force has such a major military construction fund shortfall. Any savings resulting from favorable foreign currency exchange rates (even though it would be a small amount) would be used to alleviate the \$400 million shortfall against which he had requested \$242.5 million in fiscal year 1982.

Unfavorable foreign currency rates in the past have contributed to the current shortfall. Public Law 96-130, the Military Construction Appropriation Act of 1980, provided resources to the Department of Defense for the purpose of funding increases in project costs generated by unfavorable foreign currency fluctuation. These resources were not sufficient. Subsequently, the Air Force had to furnish an additional \$40 million to pay for project cost increases caused by currency fluctuation. This \$40 million was provided from within the Air Force Military Construction Appropriation for fiscal year 1980/1981 and required the deferral of \$40 million of projects approved by Congress for accomplishment. These \$40 million of projects are now part of our \$400 million shortfall. It would be imprudent to offer up any savings that could assist in alleviating the shortfall.

Mr. JULIANA. The Navy is not affected by that at all; therefore, there was no action required on the part of the Navy as far as the revaluation was concerned.

Senator THURMOND. I believe there is \$425 million in the infrastructure. Why should that not be offset?

Admiral ZOBEL. I don't understand that, sir.

Senator THURMOND. \$425 million in the infrastructure, NATO infrastructure, why should that not be offset?

Admiral ZOBEL. For the Navy program?

Senator THURMOND. NATO infrastructure.

Admiral ZOBEL. Yes, sir; that is not a Navy question.

Mr. JULIANA. Mr. Chairman, the Department of Defense will provide that data for the record, sir.

[The information follows:]

Answer. At the time of development of the fiscal year 1982 budget request, the value of the Infrastructure Accounting Unit, which is the common fiscal baseline used by NATO, was \$4.72; since July, 1981, it has been reduced to \$3.82. Although this change reflects a 20-percent strengthening of the dollar, the administration did not consider it prudent to offset the NATO Infrastructure request for fiscal year 1982. The Infrastructure Accounting Unit is subject to two more evaluations during the fiscal year in January and July, and there is no way to predict at this time how its value will change. Since each nation in the Alliance must contribute to every project funded by the NATO Infrastructure program, it is essential that the United States have sufficient funds available to meet its commitment to this vital program. The fiscal year 1982 request is our best estimate of the Authorization and Appropriation that will be needed this fiscal year, and we consider it ill advised to reduce it.

MX PROGRAM

Senator THURMOND. Now, we will move to the MX. S. 1408 includes \$306 million for MX construction for fiscal year 1982. The President has made no decision on the MX. You have done no design on MX facilities since May 1981. Is there any way you can spend any MX construction money in fiscal year 1982 even if the President announces his MX decision tomorrow?

General WRIGHT. Mr. Chairman, I believe it would be very inappropriate for me to try to guess what the decision is going to be on the MX basing mode; therefore, I can't tell you exactly how many dollars I will need in fiscal year 1982 for planning, design, and construction. As soon as the President makes the basing mode decision and announcement, the Air Force is prepared to go back to the drawing board and take a look at how many dollars we will require in 1982.

Senator THURMOND. Since there has been no Presidential decision on the MX, and since the House has authorized most of the MX funds requested, would you agree that the Senate could take the authorization out, with the understanding that we could agree in conference to whatever is needed after the President makes his decision?

General WRIGHT. No, sir; I would not like to see you do that. I would prefer to see you leave in the program the total authorization as submitted.

Senator THURMOND. I think I have used up my 10 minutes. We will take the Armed Services members and then Appropriations Committee members.

Senator Warner?

Senator WARNER. I defer to our colleague, Mr. Laxalt, Mr. Chairman.

Senator LAXALT. Mr. Chairman, just a question or two on the timing on the MX.

All of us know the decision on basing mode is apparently going to be made during the course of the week. What is to preclude us, after that decision comes down, from sitting down once again? We have about \$500 million in our bill.

General WRIGHT. Yes, sir; we have \$366 million for construction and about \$156 million for planning and design.

Senator LAXALT. Next week we will know a lot more than we know now. It seems to me that is a vital factor in the consideration of this ongoing budget.

Perhaps, Mr. Chairman, you might consider looking at it again, and then making a determination on your end, as well as ours.

Mr. JULIANA. Mr. Chairman, the Department of Defense certainly would agree with that, and at such time we would be very happy to come forward and discuss it further.

Senator LAXALT. Very well.

I think that is all I have for the moment.

Senator THURMOND. Senator Nunn?

Senator NUNN. I want to ask a few background questions. If you want to get any of the Navy people to respond to these in detail, I will be glad to defer to them.

From an operational standpoint, what is the rationale and justification for having an east coast and a west coast Trident base? Why do we need two bases, east coast and west coast?

Mr. JULIANA. I would like to defer on that to the Navy.

Admiral ZOBEL. Senator Nunn, we have with us Rear Adm. Frank Kelso, from the Office of the Chief of Naval Operations. He will speak on the operational aspects of this question.

Admiral KELSO. Senator, there is a strategic targeting advantage to having a force split between the Atlantic and the Pacific Oceans. The details of that would be classified, but it can clearly be proven that from an effectiveness standpoint a force split in both oceans is more effective than one only in the Pacific.

In addition, sir, it also presents a two-ocean ASW problem to a potential enemy which we would not have with one base on only one coast.

Senator NUNN. I was briefed down at Kings Bay on this overall situation. Has anything changed regarding the two-ocean requirement for Trident since that briefing?

Admiral KELSO. No, sir.

Senator NUNN. Has there been any change from the unclassified testimony earlier this year—I believe it was in March 1981—Admiral Kelso, and I quote the Navy testimony: "The nature, concentration and location of Soviet targets dictate Atlantic coast basing of Trident submarines with potential Trident II-size missiles." Is that still true?

Admiral KELSO. Yes, sir; I think that is still a true statement.

Senator NUNN. Is there any change from the Navy testimony that "the D-5 is the most cost-effective military candidate for a follow-on missile and will require construction of assembly, handling, and production facilities"?

Admiral KELSO. No, sir; that will be required.

Senator NUNN. Is there any change from the Navy testimony that "Due to the desire to introduce this missile in the fleet with the least disruption to ongoing operations and for strategic targeting considerations, Kings Bay becomes the most logical choice"?

Admiral KELSO. I guess there would have to be a change. I would say there has been a change in the timing of Kings Bay. I don't think it is a change in the desire to have an east coast base with that capability in the future, no, sir.

Senator NUNN. It was the most logical choice for the D-5; has that changed?

Admiral KELSO. That is a hard question to answer because what the Navy has decided to do is to change location as to where to put the D-5 first. You could have gone either way in the beginning.

Senator NUNN. I understand they have changed, but what you said back then was that the most logical choice was having the D-5 at Kings Bay and what I am asking now is, in your personal opinion—I am not asking what the Navy's position is or what the Department of Defense position is or what the President's position is—in your personal opinion, has anything changed since the Navy testified that Kings Bay was the most logical choice for the D-5?

Admiral KELSO. I think, keeping in mind who said that, probably no, sir. I think at the time the logic was that that is the way we would go, and that is the way we saw it.

That does not mean that is the only way it could be done.

Senator NUNN. It is the most logical?

Admiral KELSO. Yes, sir.

Senator NUNN. You still think it is the most logical; your personal view?

Admiral KELSO. My personal view is, after looking at it and depending on the delivery of the ships, the strategic targeting considerations, that it could be done either way, sir.

Senator NUNN. I understand that, but has anything changed since the testimony that it was most logical to put it at Kings Bay; has anything changed except the budgetary decision?

Admiral KELSO. No, sir; I don't think there has been any change.

Senator NUNN. Admiral Kelso, does the Navy still plan to meet a 1989 IOC for the D-5 missile?

Admiral KELSO. Sir, I can't answer that question. That is really an executive and congressional decision.

We have money funded through 1982 to support being able to have a 1989 IOC for the missile. Whether that will be a decision that will come out of the President's review of strategic considerations in the future, I can't answer at this time.

Senator NUNN. As far as the Navy is concerned, is it still possible to meet that IOC?

Admiral KELSO. It is still possible, yes, sir.

Senator NUNN. Does the Navy still plan to construct an east coast Trident base at Kings Bay?

Admiral KELSO. It is my understanding and I believe the Navy will construct an east coast Trident base, and it will be at Kings Bay. The timing of that decision is somewhat in question at this time.

Senator NUNN. Does the Navy still plan to have D-5 missile facilities at King's Bay?

Admiral KELSO. Yes. If a D-5 missile decision is made, we will certainly have D-5 missiles at Kings Bay. We would need a facility at Kings Bay, sir.

Senator NUNN. Admiral, as I understand it then, the Navy still has a requirement and plans, first of all, to operate Trident submarines with Trident submarine missiles in the Atlantic Ocean; is that correct?

Admiral KELSO. That is correct.

Senator NUNN. The Navy still has plans to construct an east coast Trident support base at Kings Bay, Ga.?

Admiral KELSO. That is correct.

Senator NUNN. The Navy still has plans, subject to presidential decision and congressional decision, to go forward with the Trident II or D-5 missile?

Admiral KELSO. We have planning funds and we are on a program for advanced development for a missile follow-on for the SSBN missile which is commonly known as the D-5; yes, sir.

Senator NUNN. You still have a need for D-5 missile support facilities on the east coast?

Admiral KELSO. That is correct, sir, if that decision is made.

Senator NUNN. If you don't put the D-5 support facilities on the east coast, Kings Bay or some other place on the east coast, where will you put those facilities?

Admiral KELSO. We obviously would put them, to begin with, in Bangor, Wash.

Senator NUNN. How much will that cost?

Admiral KELSO. A ballpark estimate, somewhere between \$100 and \$150 million, sir.

Senator NUNN. When will those requests be made?

Admiral KELSO. If a decision were made for a 1989 IOC, there is a small amount of planning and design money that would have to go into the 1982 budget, very small amount, about \$0.2 million.

Senator NUNN. For 1982?

Admiral KELSO. Yes, sir.

Senator NUNN. \$0.2 million?

Admiral KELSO. \$200,000, sir.

Senator NUNN. Is that in the budget request now?

Admiral KELSO. No, sir. It is being considered.

Admiral ZOBEL. It is in the revised budget.

Senator NUNN. How about 1983, 1984, 1985 funding, do you have a schedule of funding for putting the D-5 facilities at Bangor?

Admiral KELSO. It would have become a revised request, sir.

Senator NUNN. I don't see how we can make a decision on Kings Bay and deletion without more information.

Admiral KELSO. The kinds of funds you are talking about in 1982 are roughly \$0.2 million; in 1983 it is under 5; it is about 10 in 1984. Then it goes up somewhere around \$100 million in 1985.

Senator NUNN. 1985 would be the largest funding request?

Admiral KELSO. Yes, sir.

Senator NUNN. Between now and then you would have \$50 million, in 1985 you would ask for about \$100 million?

Admiral KELSO. Between now and 1985 it would be \$120 million. Those are ballpark figures, not budget quality.

[Additional information follows:]

An approximate funding profile to provide D-5 capability at Bangor by 1989 follows:

	<i>Millions</i>
1982 -----	\$0.2
1983 -----	5.0
1984 -----	10.0
1985 -----	50.0
To complete -----	100.0
Total -----	165.2

The above figures are for Bangor only and do not include costs for D-5 test facilities at other locations.

Senator NUNN. Admiral, what is the current 5-year procurement rate of the Trident submarine platform?

Admiral KELSO. 1982 is zero ship; 1983 is one; 1984 is one; 1985 there are two; 1986 there is one.

Senator NUNN. When is the 10th submarine platform to be delivered?

Admiral KELSO. That is very difficult to answer, because the 10th is not authorized, nor is the contract let on the 9th submarine. I would expect that it would be delivered somewhere around 1989.

Senator NUNN. Admiral, in March of 1981 the Navy stated:

Assuming the Trident missile program is approved, one of the early operating Trident submarines would probably be modified and be the first to carry the Trident II missile and deploy the first unit from Kings Bay.

Has anything changed in that?

Admiral KELSO. If making a change to delay Kings Bay for a period of years and putting the D-5 facilities, assuming a D-5 decision is made, in Bangor, we would call that a change. We obviously would have to operate the first ship out of Bangor first.

Senator NUNN. That was not the Navy plan, was it?

Admiral KELSO. That was not the planning at the time that statement was made, no, sir.

Senator NUNN. Did you have a reason for operating the Trident II on the east coast rather than the west coast when you made this statement?

Senator THURMOND. Senator Nunn, your time is up.

Admiral KELSO. Sir, I don't think there is any reason other than that is the way we were planning to go at that time.

Senator NUNN. Mr. Chairman, could I ask one more question, if the chairman will permit?

Senator THURMOND. All right; go ahead.

Senator NUNN. Mr. Juliana, about 6 days ago the Navy's position and the Department of Defense position was to zero out for the next 3 years the military construction at Kings Bay. As I understand it now, you have made a revision but your written testimony did not have that revision.

Could you tell us exactly what the Navy revision has been over the last 5 or 6 days?

Mr. JULIANA. Maybe the edition of my testimony you had, sir, had not been corrected, but as I testified, a slip in the initial operational capability of Kings Bay permits deferral of \$74 million of the \$94 million; so there is still \$20 million remaining.

Senator NUNN. \$20 million in 1982?

Mr. JULIANA. Yes, sir.

Senator NUNN. How about 1983 and 1984?

Mr. JULIANA. That decision has not been made as yet, Senator, to my knowledge.

Now, that subject is still under review by the Secretary of the Navy and also Secretary Weinberger at this very moment, in fact, today, and there may be further adjustments, I have been advised.

Senator NUNN. In 1983 and 1984?

Mr. JULIANA. And possibly even in 1982, yes, sir.

Senator NUNN. Mr. Chairman, we may have to have another hearing to find out what the revisions are, because so many things are changing rapidly in the Kings Bay situation. We go from one position to the other. It really makes me wonder if the people who are making the reviews at the top know what they are doing and know anything about the importance of the Trident II missile's retrofit program and know the importance of the east coast operation of the Trident, when we are in a period we don't know whether we are going to have an MX. That has been up in the air for months and months.

We don't know what we are going to do with the B-1. We don't know what we are going to do with Stealth. This is a key program that we do have some stability in, despite the delays. This is of great concern to all of us, and now with an effort to save on budgets for 3 years, which I certainly understand, we are throwing the whole question of the east coast Trident up in the air.

It seems to me we are now in a complete circle. We have almost unwound the whole strategic program. I don't know where we are going. I understand there is a revision on the cruise missile now, and I don't know what is left that has any stability and certainty. I hope we will find out in the next few days.

Senator THURMOND. The administration is reappraising a lot of these programs. I imagine we will have answers pretty soon, won't we, Mr. Juliana?

Mr. JULIANA. Mr. Chairman, the very fact adjustments have been made in the Kings Bay project in the last few days, and more are under consideration, attests to the fact that we are giving these matters very high level, serious consideration. We would be very happy to keep this committee fully informed as those decisions are made, Mr. Chairman and Senator Nunn.

Senator NUNN. I think that is what is needed. I appreciate that.

Senator THURMOND. Senator Nunn, in the meantime, if you desire to propound any questions or submit them to the Defense Department, I am sure we can get them answered.

Senator NUNN. I will have questions for the record.

I appreciate the time, Mr. Chairman.

Senator THURMOND. Mr. Juliana, will you answer questions that Senator Nunn may send to the Defense Department on these subjects?

Mr. JULIANA. We will be very pleased to do that, sir; yes, sir.

Senator THURMOND. Senator Mattingly?

Senator MATTINGLY. I have some questions, Mr. Juliana and Admiral Kelso. I don't intend to embarrass anyone. I am trying to search out and get some information. I am not going to make a speech to you, but I think the key sentence you have in your statement is your reference to a slip in initial operational capability of Kings Bay. When did you know there was going to be a delay on Kings Bay?

Mr. JULIANA. I cannot answer that. I will defer to the Navy and see if they can answer. If not, we will get the answer for you.

Admiral ZOBEL. It was just prior to the Secretary of Defense coming forward and relating to the Congress that there was going to be a zeroing out in 1982, 1983, and 1984. That decision has now been revised so that the program will not be zeroed out in 1982, 1983, and 1984.

Senator MATTINGLY. In other words, you are not sure how much the slip was; is that right? The Navy continued to come to the Military Construction Subcommittee, continued to ask for full funding, in light of any delay in funding that may have been projected, that we did not know about, that we were not aware of. Was it the fact that the 10th submarine was not authorized by the Armed Services Committee in the House and in the Senate that caused the slippage?

Admiral ZOBEL. As far as I know, sir, the only reason for the slippage was the decision by the Secretary of the Navy that the initial operating capability of Kings Bay would be revised to 1982, for budgetary reasons, and then the amount of military construction programmed for Kings Bay in 1982 could be reduced to zero.

He has since revised that so that it will be \$19.8 million in fiscal year 1982. Mr. Juliana has just indicated that there is some further discussion of that \$19.8 million, perhaps a further revision. I am not privy to that discussion.

Senator MATTINGLY. Irrespective of not authorizing the 10th submarine, is it your understanding that the Trident submarine program will continue to go onward?

Admiral ZOBEL. Yes, sir.

Senator MATTINGLY. Then it would seem to me—and I would hope I agree with my colleagues—that we should place it on hold and keep the funding at the current level until after this week, until we get a decision which I think will be coming forth from the President, in respect to the MX, the new bomber, and the Trident submarine program.

I am certain, talking about the common missiles, D-5 or whatever it may be, that this decision will be coming forward.

Mr. JULIANA. Senator, I think that is a very reasonable approach. As I said in answer to the other question about the MX, after those decisions are made we will be very happy to come back and provide you with the information that is required.

Senator MATTINGLY. I am trying to think what I could say to this committee, whether it be the Armed Services Committee or the Military Construction Subcommittee, that I think there has been a variance of information that we have received. I assume that everyone is trying to cut the budget back and I am, too, but I think that what we are trying to find out here is if this program is going to be an ongoing program, which we all assume it is, and at what pace it is going to go forward.

Regardless of the status of the D-5 missile, wouldn't you assume that the Trident base in Georgia would be going forth anyhow, irrespective of whether they use the D-5 missile?

Admiral ZOBEL. Yes, sir.

Senator MATTINGLY. Would a decision on the D-5 missile create an acceleration in the program at a base such as Kings Bay though?

Admiral ZOBEL. Under the current plan, I can't see any way it would cause an acceleration. I suppose there is always the possibility that some other decision could be made by the President which might cause such a change, but the current planning does not indicate that.

Senator MATTINGLY. I guess, Senator Thurmond and Senator Laxalt, my suggestion would be that it would be impossible for them to give correct projections until such time as we have a hard decision by the administration on the Triad, which I assume will come next week. At that time I would think that would be the time for us to get back at this. Otherwise, put the fundings on hold as they are until such time as we get that data back.

Senator THURMOND. I have a letter here to the committee from the Secretary Weinberger that refers to the Kings Bay facility. Senator Nunn, I don't know whether you have seen this or not. I will read this portion. This is the statement on the Kings Bay facility:

In reviewing the overall Trident support facility capability, existing and planned, at Bangor and Kings Bay, the IOC at Kings Bay is being adjusted to match Trident SSBN deliveries. Therefore, the funds provided in the fiscal year 1982 budget for construction of the Trident support facility at Kings Bay can be eliminated, based on the revised IOC for this facility, fiscal year 1982 or later.

I thought you might be interested.

Senator NUNN. Yes, sir; we have received that. Of course, the testimony this morning has changed that and the testimony also indicates further changes are in the offing. So, I certainly agree with Senator Mattingly's suggestion, that there be no decision made by either committee on this until such time as we get the President's final position, not just on this but on the whole strategic force structure. Until we get that we can't see where we are coming down on any of it. I agree with that.

Senator Laxalt may know where we are all going in this.

Senator LAXALT. Senator Laxalt takes the fifth. [Laughter.]

Senator THURMOND. If he knows, I doubt that he will wish to reveal it at this time.

Senator Warner?

Senator WARNER. Mr. Chairman, just a closing note on the Kings Bay facility.

I remember in 1974 when I was in the Department we made the decision to have split basing, east and west coast. From an operational standpoint it is imperative that we have the two bases. As we well know, the first sub will be, I think, October 31 of this year, when the *Ohio* will formally be joining the fleet.

There are 9 authorized and it is my hope—and I know the committee shares this hope—that we will have a full program, perhaps as many as 15 plus; that is, a classified boat in the future.

While my colleague has raised this question in terms of deferral as to final consideration, there is no doubt we are going to have a

Trident submarine base at Kings Bay, but with a 2½-year slip for the first boat, and that projection slips all of them, I can understand why it is still under consideration.

Senator NUNN. I can understand on the platform, too. There are two dimensions. Frankly, I don't think the ones who made the decision understood there are two different elements at Kings Bay. One is the platform, the boat, and when the boat is going to be delivered. It makes sense to time the construction relating to that; but there is an awful lot of construction relating to the D-5 missile on which the IOC has not slipped.

Senator WARNER. This missile decision is not a final one yet. We still have that before our subcommittee.

Senator NUNN. That is correct. At the same time, what we have is a situation where we are eliminating a degree of important flexibility relating to the D-5 missile. If this decision goes through, we are eliminating flexibility. It may be 15 years from now we could have afforded that. With the muddle we are in with our whole strategic program—and have been for some time—this is not aimed at one administration—I think it is essential that we keep as much flexibility as we possibly can to give us options if certain things don't work out.

We don't know yet what will happen to the MX. Even when the President makes his decision, we don't know whether it is going to be bought by the Congress, whether it is going to win the lawsuit, if it is affirmative and so forth.

On the B-1, I think there is a serious question whether the Congress is going to fund the B-1 even if the President recommends the B-1. All of these things are intertwined.

Senator THURMOND. I think we can go into those things at a later time. We are on military construction at this time.

I believe the able Senator from Virginia, who was Secretary of the Navy, and is an expert on military affairs, confirms your position.

Senator WARNER. Returning briefly to the MX decision, when our subcommittee took up the R. & D. aspects of the MX, the current authorization was predicated on a system that was recommended by President Carter. Any deviation from that system would require additional planning time. So it is likely that we will have some sweep-up 1982 money in MX, would you not say, without giving us a figure?

General WRIGHT. Sir, that would, of course, be contingent upon the basing mode. It is very difficult for me to speculate.

Senator WARNER. Going ahead with the identical plan laid down by the Carter administration, you would have to fall in and fall out again on the planning and therefore it is likely the moneys could be deferred?

General WRIGHT. I would say no, sir, because we are talking about constructing an infrastructure for the system. Basically, regardless of how it goes, as we see it now, and I am speaking for myself, I feel as though that infrastructure would be essentially the same. That is, our fiscal year 1982 requirements will not change appreciably from what was submitted earlier this year.

Senator WARNER. Assuming it is going in the same place?

General WRIGHT. We have to wait and see; yes, sir.

REGIONAL WASTE DISPOSAL SYSTEM, NORFOLK AREA

Senator WARNER. Mr. Chairman, there is one technical matter that relates to a naval facility in the Tidewater area which does not have any dollar impact based on an amendment I propose to the committee.

I would first ask the Navy to address the requirement for a sharing of the regional waste water disposal system in the Norfolk area.

Admiral ZOBEL. Yes, sir, the Hampton Roads Sanitation District is constructing an Atlantic sewage treatment plant to alleviate an overloaded condition they have in their sewage disposal. The Navy's fair share of this plant was determined in August of this year to be \$2.4 million. The Hampton Roads Sewage District is underwriting the Navy's share of that cost, so that the Navy can include a project in the fiscal year 1985 military construction pollution abatement program to cover that requirement.

We would then provide a fair share plus interest on that portion underwritten by Hampton Roads Sewage District.

Senator WARNER. Would it not be appropriate at this time for the committee to shift the authorization for the \$2.4 million and take it out of a separate account for land acquisition at the Naval Air Station at Oceana?

Admiral ZOBEL. Yes, sir; that is potentially possible.

Senator WARNER. I would like to make the motion that the sum of \$2.4 million for the public works sector at Norfolk be authorized; and deletion of \$3.04 million for the land acquisition at the Naval Air Station at Oceana. Therefore, there would be no dollar impact.

Senator THURMOND. Senator, we will reserve that motion until we are ready to take action. We are only holding a hearing now.

Senator WARNER. I understand that. I want to put it in the record at this time. Thank you.

Senator THURMOND. Senator Exon?

Senator EXON. Thank you, Mr. Chairman.

Mr. Secretary, I would like to have you respond and also those with you, if they care to. There could be some general discussions and I share some of the concerns already expressed here, especially about the Trident and some of the other matters.

You are familiar with the talk on the Hill today about further cuts over and above the \$2 billion that the President has recommended for fiscal year 1982.

If the Congress in their wisdom make substantial additional cuts, let us say, that the Congress should say we are going to eliminate—I hope they don't but if they do—\$3 billion for fiscal year 1982, instead of \$2 billion, have you done any planning, have you received any instructions, about where this additional money would come from?

My question is based on the fact that if we were facing a total of a \$3 billion cut in 1982 and in the outyears up to \$30 billion, rather than the President's recommended \$13 billion, would that change the reductions that you are recommending that we make here? Have further cuts been taken into consideration with regard to those that you have recommended?

Mr. JULIANA. Senator, in arriving at the \$2 billion cut for fiscal year 1982 and the total of \$13 billion for the next 3 years, consideration was

given to several areas, other areas, that might be considered for reduction; however, it was the judgment of the Department of Defense and, obviously, the judgment of the President, that those cuts should not be any more severe than we have now submitted.

Senator Exon. I agree with that, but my question is, What if it happens?

Mr. JULIANA. If it happens, I think the readiness capability of this country and our effort to mobilize in an emergency would be seriously impaired. If those cuts were dictated by the Congress, the chances are that they would come, as they have historically, out of the very programs that we are talking about today, which are severely needed to be ready for war and to mobilize our forces.

Unfortunately, in the past, the first things that were cut were the family and quality of life facilities and the maintenance and repair budgets, and that is the area we feel very strongly should not be cut. Past cuts have put us in the condition we are in today.

I guess, to answer your question, if the Congress cuts the budget anymore than we have pared it down, those cuts would come from the family and quality of life areas which would be very disastrous to our readiness.

Senator Exon. Let me see if I can rephrase the question, because you partially answered it. Maybe you don't understand what I am getting at.

Let me assume that the Congress in its wisdom decide that rather than cutting \$13 billion from the President's recommendation, that we were going to cut \$30 billion for the period involved. Let us assume, for example, that rather than cutting \$2 billion in 1982, the Congress in its wisdom or lack thereof should say you are going to have to cut \$4 billion rather than \$2 billion out of fiscal year 1982 budget. My question is, Have you made plans along that line and if that would come to pass, would you merely go deeper into many of these programs that you are cutting, or would you have to take a whole new structured look at what your spending recommendations would be?

What I am saying is, if you are faced in the next month or so with deeper cuts, would you still recommend all of these, or would you go back and leave some of these in, along the line of saying if we have to cut more we will have to cut deeper, cut some programs that right now you are not recommending any cuts on?

Mr. JULIANA. Senator, I do not know of any plan that outlines where additional cuts would be made. Over the past several months every program has been reviewed. I would guess that they would have to be reviewed again.

Senator Exon. Thank you.

I have no further questions at this time.

Thank you, Senator Laxalt, and Senator Mattingly for joining us.

AEROPROPULSION SYSTEM TEST FACILITY

Senator THURMOND. I have questions now on the aeropropulsion system test facility. This will be for the Air Force witness, I presume.

You have advised the committee of a major cost overrun for the Arnold aeropropulsion system test facility in Tennessee. This project was authorized in fiscal year 1977 at a cost of \$437 million. Your letter

to the committee requested authorization for an overrun of \$138 million. A copy of that letter will be placed in the record at this point, following this question.

Now, would you briefly explain this situation and tell us what you need from the committee at this point?

Without objection, the letter dated August 13, 1981, to Senator Tower, signed by Buford D. Lary, brigadier general, U.S. Air Force, Deputy Director, Legislative Liaison, will be placed in the record at this point.

You may proceed to answer that.

[The letter follows:]

DEPARTMENT OF THE AIR FORCE,
Washington, D.C., August 13, 1981.

Hon. JOHN G. TOWER,
Chairman, Committee on Armed Services,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: The fiscal year 1977 Military Construction Program (MCP) Aeropropulsion Systems Test Facility (ASTF) under construction at Arnold Engineering Development Center, Tennessee, requires numerous unprogrammed engineering changes. These changes are needed to solve interface problems existing between the project's special equipment and the support facilities. The Air Force identified the need for these changes in November 1980 and, after a thorough assessment completed in June 1981, estimated the cost of these changes to be \$138.4 million.

Legislation is required to authorize and fund these changes. Upon learning in November 1980 of the need for additional authorization and funding, the Air Force included a request for an additional \$65 million of fiscal year 1977 MCP Title III authorization in its fiscal year 1982 budget for the ASTF. The budget also included \$65 million for ASTF in the \$242 million appropriation request for MCP fund shortfall. \$65 million was our preliminary estimate for the engineering changes. In early 1981, the Air Force learned from its on-going project assessment that the required engineering changes for ASTF would significantly exceed \$65 million. Budget change action was delayed until the final estimate of \$138.4 million was established. The Air Force inadvertently overlooked formally advising the Armed Services Committees of its need to change its fiscal year 1977 Title III request.

Upon completing the project assessment in June 1981, the Air Force initiated a \$16 million reprogramming request to avoid shutting down construction in fiscal year 1981. The reprogramming request has been approved. We are currently seeking appropriations of \$122 million in the fiscal year 1982 MCP to complete the project. Additionally, a fiscal year 1977 MCP Title III authorization increase of \$122 million is required for Arnold Engineering Development Center to complete the construction. The Air Force requests that the fiscal year 1977 MCP Title III authorization be increased from \$736,409,000 to \$858,409,000 to authorize completion of this project.

Since the House has already passed H.R. 3455, containing a \$65 million authorization increase for this project, and since the Senate Armed Services Committee has already marked up S. 1408 without additional authorization, it appears that a Senate floor amendment will be necessary to obtain the additional Title III authorization of \$122 million. Subsequently this increase must be approved in the Conference.

We understand that the increase in fiscal year 1977 Title III authority which we are seeking can be accommodated within the President's fiscal year 1982 Budget Authority and Outlays.

We believe the actions outlined above are the most direct path to completing this project, a national technology asset. We respectfully request your assistance in obtaining this necessary additional authority.

This request has been approved by the Office, Secretary of Defense, and Office of Management and Budget.

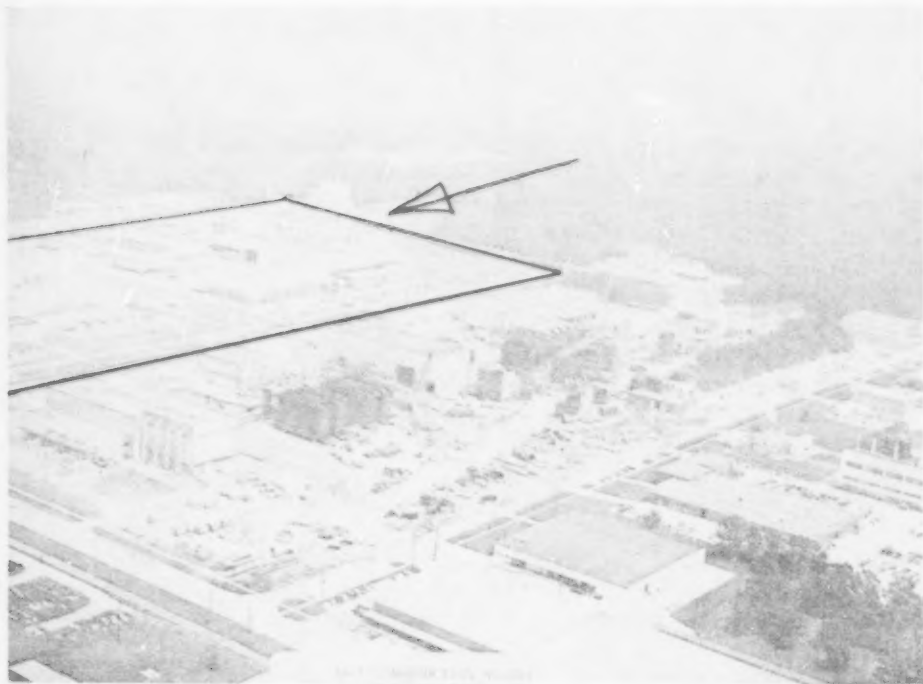
Sincerely,

Brig. Gen. DERALD LARRY,
Deputy Director, Legislative Liaison.

General WRIGHT. Mr. Chairman, first I would like to say that we are seeking a \$122 million increase in authorization to the 1977 military construction bill. We are also seeking appropriations in the same amount to support cost growth on this project.

If I may, sir, I would like to briefly explain the situation and show you a couple of slides.

The project was authorized and appropriated, as you stated, in fiscal year 1977, at \$437 million. It is a very complex project. This portion of the slide shows the aeropropulsion test facility which occupies 57 acres of land.



This portion (arrow) is an existing test facility. The complex consists of a very large air-intake and compressor section, the heating and cooling element, two large test cells within this test building, an exhaust system with a radiator that is 37 feet in diameter containing about 5,500 tubes, similar to an automobile radiator, and then an exhaust system.

This facility, Mr. Chairman, provides a test bed for jet engine aircraft testing.

When the construction was started in 1977, a conscious decision was made by the Air Force to split the project, to construct and to procure very sophisticated equipment simultaneously. The equipment package was about \$70 million and the construction contract was about \$260 million. We decided to pursue a dual track, that is, design and development of equipment which had never been built before, while constructing the facility. We did not know what the equipment was going to look like.

The architect-engineer based his design on the best available information from equipment suppliers and manufacturers. He researched throughout the world to determine, based on prospective suppliers

best estimates what the equipment would look like and based his design on that information. The construction contract was awarded. The Air Force recognized there would be changes in this project along the way. That was a conscious decision.

As the equipment was developed and construction was progressing, construction drawings were modified by the architect-engineer based on information provided by the equipment manufacturers, and construction change orders were made when original drawings did not adequately define requirements.

There has been a misconception, sir, about this project, that the Air Force built something that had to be torn down and reconstructed to accommodate equipment that was provided later. That is not correct. Equipment was delivered during the course of construction. Changes were made to the contract that the construction contractor had bid on. Nothing was done that had to be torn out.

As we went down the track, the number of changes grew and grew. We were in a position where we had to continue construction in order to avoid shutting down the project. To do this, we had to authorize the construction contractor to proceed and negotiate changes as we could get to them.

Let me go back to 1977, if I may, and describe why this decision was made, because I think it is key.

Why didn't we wait? Why didn't we buy the equipment and put it on the shelf, advertise the construction contract and install the equipment when we needed it? Had we done that, we would have lost about 2 or 3 years on the construction side to inflation which was running about 10 percent a year in 1977, 1978, and 1979. That would have probably cost an additional \$75 to \$100 million on the construction contract alone.

This is one of the reasons that the Air Force made the decision to go concurrent, recognizing there would be changes.

We obviously underestimated the degree of change and the related delays in claims associated with these changes. That is the position we find ourselves in today, Mr. Chairman.

We now are at about 75 to 80 percent complete, with construction in place and essentially all equipment onsite. Construction is progressing daily on this much-needed facility. We desperately need authorization and funds to continue construction.

It would not make good business sense to shut down a job of this magnitude at this point. It would all be lost. The facility is not only required to test military jet engines of the future. It is a national asset. It is not an Air Force facility per se; it will serve the country.

Certainly, I think, in retrospect—and I don't want to try to second guess the decisionmakers in 1976 and 1977—there may have been different ways to proceed; it might have been done a little bit differently and that might have reduced the cost growth—however, sir, I believe there would have been significant cost growth on a project of this nature regardless of how the Air Force chose to pursue and package the program.

That basically explains the situation that we are in today. We do need the authorization and the funds to continue work, because if we delay and shut down now it is only going to compound and cost us more, sir.

Thank you for the opportunity to explain the situation.

Senator THURMOND. A *cost overrun of this magnitude* is a very serious matter. What happens if the committee does not agree to authorize the increase that you need? You are already overobligated?

General WRIGHT. No, sir, we are not overobligated. We would have to put the contractor on hold and issue stop orders, but we are not overobligated. It would be simply a situation of having to shut down the project.

Senator THURMOND. It would be a bad business decision; would it not?

General WRIGHT. Yes, sir.

Senator THURMOND. Are there options of partial completion short of authorizing the full \$138 million which you now estimate to be the cost overrun?

General WRIGHT. No, sir; there is no way to reduce scope and still provide a usable facility.

Senator THURMOND. From what you have told us, this cost overrun appears to be largely the result of mismanagement of the project, or where would you put your finger on it?

General WRIGHT. Sir I would hate to characterize it as mismanagement. Certainly on any construction project of this complexity there are numerous problems encountered along the way. There are possibly things could have been done differently, but, as I said before, I believe that we would have had cost growth on the construction side due to inflation. So, to try to characterize it as mismanagement would be second guessing the people who chose this course of action in 1977.

Senator THURMOND. In brief, if you had to say who is responsible for this cost overrun, whom would you put your finger on and did they use good judgment in doing this, or did they take this course without authority?

General WRIGHT. No, sir; there was no work done without authority. I don't think it would be possible to pinpoint any particular individual responsible. There are numerous situations and conditions that led us to this situation.

Senator THURMOND. Do you think the design contract was at fault?

General WRIGHT. No, sir; I don't.

Senator THURMOND. Do you think there are things that could not be foreseen; in other words, how are you going to explain it and how can we explain it if the people ask us? What should we tell people to justify your position?

General WRIGHT. I think, Mr. Chairman, it can best be said that with a project of this nature, one that is very closely related to the research and development environment, we encounter many unknowns along the way. Where we are developing equipment, controls and monitoring equipment that has never been built before, we can expect change. We didn't know the physical dimensions and shape of equipment. We had to specify a performance requirement, for example, on much of the equipment because the manufacturer could not give us an off-the-shelf item with a part number or a design that would tell us exactly what that piece of equipment was going to look like when it was delivered to the site.

Anytime we are constructing in the world of research and development it is very risky.

Senator THURMOND. Isn't it true that the Air Force changed its usual way of handling military construction in this matter? For instance, I believe the Air Force was the design agent: was it not?

General WRIGHT. Yes, sir; that is not unusual on projects in the research and development environment, where there are many, many changes that will be made that will affect facility design. More often than not, we use the Corps of Engineers or Navy as the design agent, but in some of the research and development projects the Air Force does obtain from the Defense Department design agent authority.

Senator THURMOND. As a rule, however, the Corps of Engineers or the Navy Facilities Engineering Command does the design, but for some reason the Air Force handled the design of this project themselves. Can you explain to us why the Air Force managed the design of this project when you really had no capability to do major design work?

General WRIGHT. Well, we do have the capability, sir, on a very limited basis. As I said before, the Air Force sought and obtained authority from the Defense Department to be the design agent on this project because of the complex nature of this design and relationship with the research and development community.

Senator THURMOND. My next point is that the Air Force procured the equipment for this project and furnished it to the construction contractor, I believe?

General WRIGHT. Yes, sir.

Senator THURMOND. Now, the equipment procurement was so late that the contractor had already built the facilities improperly, even though he had built them according to Air Force design. How could this happen?

General WRIGHT. Sir, that did not happen. Nothing was constructed that had to be torn out. The changes were made along the way. The construction contractor made the changes based on the architect-engineer's design modifications to accommodate equipment and related controls, cables, and ductwork. Nothing was built that had to be torn out to accommodate the equipment.

As I said earlier, the equipment was procured concurrently with the construction of the facility, over a period of about 2½ years.

Senator THURMOND. The Air Force is very competent in what it does and has the capability to do, but I am really wondering, did you have the capability to do this as it should have been done?

General WRIGHT. Sir, I think we did.

Senator THURMOND. It does not seem like it, with a big cost overrun.

General WRIGHT. I am not happy to be here asking for funds to cover this particular project. The Air Force and my colleagues, the Army and the Navy, have a very good track record on construction programs. I think the only time we come back is when we are in trouble, sir. By and large we execute the programs as you authorize and appropriate them.

Senator THURMOND. Maybe you would not get in trouble if you followed a different method.

General WRIGHT. Well, sir, maybe if things had been done a little bit differently we might have been back asking for money, but pos-

sibly in a different environment. I think there would have been cost growth based on inflation had we waited 2 to 2½ years while this equipment was being designed, developed, and fabricated.

Senator THURMOND. I would like to ask, Mr. Secretary, what is the DOD's position on this situation? Do you agree that there is no alternative except to authorize the \$138 million cost overrun?

Mr. JULIANA. Mr. Chairman, we support the Air Force request for this additional funding. We feel that without funds the project will be discontinued and we will have expended substantial sums of money with no results.

Senator THURMOND. Has DOD had the opportunity to investigate the manner in which the Air Force handled this project and reached any decision about it?

Mr. JULIANA. I do not know that the Audit Service has investigated, Mr. Chairman. We will check that out and let you know. If it was, we will send you a copy of the report.

Senator THURMOND. Do you think it should be investigated when there is a big overrun?

Mr. JULIANA. I think it should be, yes, sir.

Senator THURMOND. Can you give us a report on that after the investigation?

Mr. JULIANA. We certainly will be very happy to do so.

[The information follows:]

To date, neither the Defense Audit Service (DAS) nor the Air Force Audit Agency (AFAA) have investigated the manner in which the Air Force handled the Aerospace Systems Test Facility (ASTF) cost over run and there are no plans to do so in the near future. Therefore, there is no report to transmit. I might add, however, that the Air Force conducted an extensive investigation in late 1980-early 1981 and provided a copy of the investigation to the Congress. The House is currently conducting an S. & I. review and the GAO is also reviewing the program.

General WRIGHT. Mr. Chairman, I might add, the House S. & I. Committee is looking at the project; I believe the General Accounting Office has done some review on the project in addition to a very comprehensive Air Force assessment of the project.

Mr. JULIANA. Mr. Chairman, all of those reports, Air Force and others, that are available to us will be made available to the committee.

Senator THURMOND. I will do anything to help the services. We have to have strong services. I have backed them the 28 years I have been in the Senate. I am pleased that President Reagan is now endeavoring to eliminate any fraud, any mismanagement, any waste, and I certainly back him on that.

I think the Department of Defense had better be on notice because there has been a lot of waste in the services; there is no question about it; as strongly as I believe in the services, as strongly as I back them. So, I think, Mr. Secretary, it would be a good thing to take a good look at all the Pentagon and see where we can eliminate any mismanagement or any waste.

Mr. JULIANA. Mr. Chairman, Secretary Weinberger has already taken two steps, major steps, in this very area. He has appointed an Assistant Secretary on Oversight and Review, reporting directly to him, looking into all the areas of fraud, waste, and abuse.

Second, he has just announced formation of a Council on Integrity and Management Improvement.

Both of those will be addressing the very issues you have raised this morning.

Senator THURMOND. If you are going to help those of us who are backing the services so strongly, as I try to do, you really have to handle matters in such a way that we can back you, because when criticism comes up we don't want it to be just criticism. We want to be able to show that efficiency has been practiced, honesty has been practiced, and good management has been practiced.

Mr. JULIANA. We certainly support your comments, Mr. Chairman.

Senator THURMOND. Senator Mattingly?

Senator MATTINGLY. Mr. Juliana, have you proposed any changes, any management changes, whatsoever in the Defense Department to catch things such as this?

Mr. JULIANA. Yes. As I just mentioned, we have an Assistant Secretary for Overview—

Senator MATTINGLY. Has anything come up on this particular incident?

Mr. JULIANA. Not to my knowledge, Senator, but we will check it and make available to this committee anything that has.

Senator MATTINGLY. I don't think that is what I am getting at. We are talking about the Air Force as the design agent, using an architect. You said they had the best information available, you said there wasn't mismanagement. You said it would be good business sense not to shut it down at this time. The general said that.

There has to be a better way to handle things, obviously; \$138 million is still a lot of money. There have to be changes made. I have heard about it for several months now. It seems to me it should be the responsibility of the Defense Department to expedite something to make such changes where they could catch it.

I am not accusing you of mismanagement or good management, but I can say from the private world it would have been good business sense to use better business sense initially. You weren't there back then, Mr. Juliana, but I am saying now is the time to institute management principles that will not allow these things to happen.

I read about this in a newspaper in Cincinnati. I sent my own people there to check and try to find out something. This is where I think your responsibility, the Department of Defense responsibility comes in, to change it so that the Air Force has a better management mandate from you.

When you talk about \$138 million you are talking about a tremendous sum of money. I would rather see that you in the Department of Defense precisely knew the exact method you were going to use for this design.

Senator THURMOND. Mr. Secretary, with the MX missile coming up in whatever form that weapon takes, do you think actions Secretary Weinberger has taken will be adequate, or do you think it requires a continuing study of this situation to be sure that the best results are obtained and efficiency prevails?

Mr. JULIANA. Mr. Chairman, I believe that these programs are so critical that continuing monitoring is required. No matter what we

do, we will always need to try to do better. As you may know, the Secretary through Mr. Carlucci, the Deputy, did review the entire acquisition procedures and policies of the Department of Defense early in this administration, which resulted in the so-called participatory management concept being initiated at the Department of Defense; but further still a very clear set of guidelines on the whole acquisition process has been published and the services are required to meet those guidelines.

I think that will go a long way, Mr. Chairman, to correct some of these concerns that have been expressed here this morning.

Senator THURMOND. Senator Exon?

Senator EXON. Thank you, Mr. Chairman.

General Wright, in your earlier testimony you indicated this was a national asset. I took it you meant other than the Air Force would be using this facility?

General WRIGHT. Yes, sir.

Senator EXON. What other functions of Government would be using this facility, in your opinion?

General WRIGHT. Certainly it would be available to the other services, to NASA, but it would also be available on a reimbursable basis to the aerospace industry for testing commercial jet engines of the future. That is really what I meant by characterizing it as a national asset.

Senator EXON. I assumed that is what you meant.

Has there been any consideration for NASA, for example, to pick up part of this cost?

General WRIGHT. No, sir.

Senator EXON. Likewise, you are saying that if private industry uses this facility, they are not expected to pay any of the initial cost, but they would be charged for that portion of the services that you would perform for them?

General WRIGHT. Yes, sir.

Senator EXON. How does private industry test engines today?

General WRIGHT. Some of the larger engines are not put through the rigorous testing envelope that they should be put through today. This facility will enable us to take an engine in a test environment to 100,000 feet at mach 3.8, which is almost 4,000 miles an hour, at temperatures from minus 400° F. to over 1,000° F.

Senator EXON. There is not anything like that now?

General WRIGHT. Not in this country. I understand the Soviet Union does have a test facility of this type.

Senator EXON. I was going to ask, how much it costs them, but I think it would not be appropriate.

General WRIGHT. If I knew, sir, I would not hesitate to give it to you. Their labor is pretty cheap, I imagine.

Senator EXON. Thank you, Mr. Chairman.

Senator THURMOND. Senator Sasser, we are glad to have you with us. Do you care to ask questions?

Senator SASSER. Yes, Mr. Chairman. Thank you.

I might say I recently toured this facility in my native State of Tennessee. Frankly, there is a great national need, I think, for this

particular facility with the capability to run the tests that this facility can run when it is completed.

I also have to say that I was stunned that we could get it at a cost overrun of this magnitude. I think there are a number of reasons for it. Some I am aware of and some that I am unaware of.

In an effort to get to the bottom of it, Mr. Chairman, I have requested the General Accounting Office to look into this problem, and would ask that a copy of my letter, which was forwarded on August 13, 1981, to GAO, be made a part of the record, with your permission, Mr. Chairman.

Senator THURMOND. Without objection.

[The information follows:]

U.S. SENATE,
Washington, D.C., August 13, 1981.

Mr. MILTON SOCOLAR,
Acting Comptroller General, General Accounting Office,
Washington, D.C.

DEAR MR. SOCOLAR: Recent experience with construction of the Aeropropulsion Systems Test Facility at Arnold Engineering Development Center at Tullahoma, Tennessee, indicates serious deficiencies may exist with the Department of Defense policy which provides that the government may procure equipment and furnish it to a construction contractor for installation.

This practice has resulted in a \$138 million cost overrun on the ASTF facility. In this instance the government-furnished equipment did not conform with the design and construction of the facilities upon which the equipment was installed. Because of this error the government has sole financial responsibility.

This problem was further exacerbated because of the split authority between the Army Corps of Engineers and the Department of the Air Force. The Corps is the agency responsible for monitoring the construction contract while the Air Force is procuring and furnishing the equipment.

The ASTF experience raises several questions which I would like GAO to address. I am very concerned that the mistakes at ASTF not be repeated in other military construction projects such as the proposed MX. If the Department of Defense were to take a similar approach with the MX Missile System the mistakes at ASTF could be repeated. A cost overrun of the same magnitude of ASTF could equal as much as \$10 billion or more on the MX. Prudent national defense policy dictates that unnecessary cost overruns be eliminated.

I request GAO to undertake a study of the DOD policy which permits government-furnished equipment on military construction projects. What has been the experience on projects other than ASTF? How can the practice be improved to prevent a recurrence of massive cost increases? Should project contractors themselves and not the government be responsible for equipment procurement, thus absolving the taxpayers of financial responsibility should cost increases occur?

Also, I would like GAO to look into the advisability of continuing a policy which splits responsibility for military construction projects between the Army Corps of Engineers and another branch or department. How can this policy be improved so that unnecessary design, procurement and construction errors can be avoided? Lastly, what are the current plans of the Department of Defense with regard to the MX? Without addressing the unresolved question of the basing mode, GAO should outline whether or not current MX planning in the Pentagon calls for government-furnished equipment and split construction, procurement and design authority between the Air Force and the Corps of Engineers. What are GAO's recommendations with regard to this aspect of MX construction?

Such a report will be invaluable to the Congress and the Department of Defense in order to develop improved procedures and policies which will avoid serious mistakes as were made with ASTF.

Thank you for your assistance in this matter.

Sincerely,

JIM SASSER, U.S. Senator.

Senator SASSER. There are a number of reasons for this cost overrun, some that can be explained and some which cannot, and some, as

I said earlier, I am not aware of. I think one certainly is haste on the part of the Air Force, perhaps responding to external pressures, to bring this facility on line just as quickly as they possibly could, and going through a relatively unusual practice of buying the equipment that is to be installed in the facility contemporaneously with the beginning of construction on the facility or while construction is underway.

I might ask you, General Wright, just for the record, would you briefly discuss the national need for this test facility?

General WRIGHT. Sir, I think I have touched on it a few minutes ago. Right now we see such things as testing the new engines for the KC-135, the reengining program for the KC-135, the CX transport engine development program, the new long-range bomber engine, the F-15 and the F-16 engine which is currently in production that has encountered some problems will be retested as the modifications are made.

As I understand it, there are several engines on the drawing board for larger commercial aircraft, higher efficiency-type engines for wide-bodied aircraft that in all probability will be tested at Arnold.

Senator SASSER. Do our NATO allies have access to this test facility on a cost-reimbursable basis?

General WRIGHT. Yes, they do.

Senator SASSER. There would be no other test facility similar to this in the free world?

General WRIGHT. Not to my knowledge.

Senator LAXALT. The only other facility that would be comparable to it presently existing is in the Soviet Union, is my understanding?

General WRIGHT. Yes, sir.

Senator LAXALT. It is not common practice is it, General Wright, for the Government to furnish equipment on military construction projects?

General WRIGHT. Sir, it is on some of the more complex projects, such as this.

Senator LAXALT. Have you experienced problems on other projects with Government-furnished equipment?

General WRIGHT. Not of this magnitude, sir. There have been some problems but nothing of this magnitude. We prefer to have the contractor provide equipment on a lump-sum contract.

Senator LAXALT. Will the Government-furnished equipment be provided on any of the projects in the fiscal year 1982 program?

General WRIGHT. Sir, I would have to look at the program. I can provide that for the record.

[The information follows:]

General WRIGHT. Only one project in the fiscal year 1982 MCP has Government Furnished Equipment (GFE)—Wright-Patterson Air Force Base—to "Add to and Alter Composite Medical Facility." Most medical facilities do have some GFE contractor installed and purchased with MILCON funds. There are several reasons for this approach; they are: (1) GFE is high technology equipment which may be upgraded by the manufacturer yearly. There is no safeguard that a construction contractor will buy the latest model 4 or 5 years down the road when the X-ray room, for example, is ready to receive the X-ray equipment. (2) The government saves money by going through the Defense Logistics Agency (DLA). DAL, with volume buying may get a 12-15 percent reduction off the manufacturer's list price. (3) The government, through DLA, avoids the con-

struction contractor's middleman markup. (4) The government, by buying equipment only when the facility is ready to accept it, maintains an effective warranty period.

Senator SASSER. Does the Air Force plan any policy changes to assure that the mistakes that were made in the ASTF facility will not be repeated?

General WRIGHT. Yes, sir. We have done a lot of soul searching. We have done a lot of looking at a very comprehensive assessment done by the Air Force at Arnold. We have applied these lessons learned to the MX program. We will apply them to future construction projects across the board.

Certainly you learn from mistakes and, as we stated earlier, the Air Force has learned considerably from this project and we will do all we can to prevent this from occurring again.

Senator SASSER. I think we would all agree, General Wright, this is a pretty costly lesson at \$138 million. I think the chairman expressed it well when he said that it would be poor business not to go forward with the program at this time.

Thank you, Mr. Chairman.

Senator THURMOND. Thank you, Senator.

I have a question for the Navy witness: I understand that a siting problem has developed at your Willow Grove construction project. Will you briefly explain the situation?

Admiral ZOBEL. Yes, sir. The project at Willow Grove requires acquisition of approximately 30 acres for family housing. The acquisition of that additional land has been challenged by the local government because of the potential loss of tax dollars. Because of those problems that we currently have, the Navy proposes to defer that particular acquisition to a future program, Mr. Chairman.

Senator THURMOND. What is your next priority for family housing that might replace the Willow Grove project?

Admiral ZOBEL. There are a number of them, sir. We have a backlog at a number of locations throughout the United States.

Senator THURMOND. What about the Charleston housing project?

Admiral ZOBEL. Definitely a backlog there, sir. We have a fairly sizable backlog there, as a matter of fact.

Senator THURMOND. Would it be in order to take that next?

Admiral ZOBEL. Yes, sir; it would certainly ease the problem in Charleston.

Senator THURMOND. I have a number of question for you. To save the time of the witnesses, I am willing to let you answer those for the record. They deal with the different services. Would you like to answer those for the record? We also have questions for the record from Senators Nunn and Hart.

Admiral ZOBEL. We will be very happy to do that promptly, Mr. Chairman.

[Questions with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR STROM THURMOND

OVERSEAS AND FAMILY HOUSING

Senator THURMOND. I am advised that there is a problem with the ceiling on overseas family housing leases. The bill that our committee has reported out limits expenditures on overseas family housing leases to \$115,121,000—slightly

more than the budget request to accommodate some added requirements for attaché housing. Explain briefly the problem here and what you would recommend to correct the problem.

ANSWER. The \$115,121,000 limitation is too low. An additional \$6,700,000 is estimated to be necessary to fully execute the fiscal year 1982 overseas leasing program. This increase is attributable to unexpectedly large escalations in the cost of utilities, up by about 35 percent in Europe over the fiscal year 1981 cost. It is recommended that the limitation on expenditures for overseas leasing be removed. This would be consistent with the committee's recommendation concerning domestic leasing.

Removal of the ceiling on overseas family housing leases relates to authorization only. No additional funding will be requested to accommodate the higher costs for such leases. Reprogramming of family housing funds will require some flexibility in the maintenance floor imposed with appropriations.

Also, 22,000 foreign leases are required, although fewer than 20,000 are planned for funding in fiscal year 1982. The additional units are required to permit entering into lease construction contracts for delivery of leased housing in some future year. Funding is necessary when the units are completed and occupancy commences.

"BUY AMERICAN" APPROACH

Senator THURMOND. On the second page of your letter, you say, "Our construction industry agrees" that "this narrow 'Buy American' approach is unnecessary. I seriously doubt the validity of this statement. American contractors clearly have a better opportunity to get overseas contracts if American materials are used. But that is not the primary issue. We are spending billions of the taxpayers dollars on overseas construction, and we get less and less help from our allies. As far as I know, not one single ally has offered to contribute so much as a single dollar toward the construction of Middle East contingency bases—and yet many of them are more dependent on Middle East oil than we are. We can at least keep a few of those dollars in our economy by using U.S. construction materials. When our allies start talking about paying part of the construction cost, the Congress might be more amenable to relaxing the Buy American requirements. Do you have any further comments on this issue?

ANSWER. The Department would, of course, prefer that our construction be performed by U.S. firms using U.S. materials. However, we will in some cases need to use some foreign material and to allow foreign contractors to compete for the business so as to comply with local national initiatives that have provided us access to certain foreign bases. Our policy will be American Preference whenever possible. But we would like not to be precluded by law from making necessary exceptions.

Senator THURMOND. By letter, dated September 19, 1981, you advised the committee of your concern with regard to section 1007 of S. 1408 which contains a requirement to use U.S. materials on overseas construction projects. Summarize your concerns and give us your recommendations.

ANSWER. We are concerned that Section 1007 of the Senate's Fiscal Year 1982 Military Construction Authorization Act will be perceived by those allies, within whose countries we propose construction to support U.S. forces, as an infringement on their sovereignty. They now consider such construction as a joint effort. They provide the land; we provide the funding and do not exclude the application of their materials and labor. Use of local materials and labor often allows the political leaders of our allies to soften the impact of "foreign" U.S. forces stationed in local communities. We can expect that, if Section 1007 becomes law, our allies may press to renegotiate base rights agreements, the outcome of which could be disadvantageous to the United States. We, therefore, request that Section 1007 be removed from the Fiscal Year 1982 Military Construction Authorization Act.

SAN ANTONIO LAND EXCHANGE

Senator THURMOND. The Navy and Marine Corps Reserve Center in San Antonio, Tex., is in the middle of the city and occupies some key real estate. I am advised that the Navy has been approached by the city concerning a fair market value exchange wherein the city would provide the Navy with a new Reserve

Center in exchange for the Navy's existing real estate. Would you provide for the record details on this proposal and tell us the Navy's position?

ANSWER. This proposal would provide an equal value exchange of the Navy and Marine Corps Reserve Center property with the City of San Antonio, with the city having the option of providing cash consideration in lieu of a replacement facility. Under the arrangement, if the cost of a replacement facility is more than the fair market value of the existing reserve center facility, the Navy must fund the difference in value. The Navy is willing to consider any offer to exchange the existing site for a suitable substitute facility.

Senator THURMOND. How much money has the Navy programmed for future years to spend on the existing Reserve Center?

ANSWER. In fiscal year 1984, we plan to spend \$1.3 million to rehabilitate the existing facility.

CORPUS CHRISTI BOMBING RANGE

Senator THURMOND. The committee has been advised that there is an urgent need to proceed with the acquisition of the McMullen County, Tex., practice bombing range. Would you provide for the record the details on this situation?

ANSWER. The Dixie (Corpus Christi) Target Range is primarily used by the Naval Air Station Corpus Christi for "dryruns" and for explosion of faulty warheads. The Air Force plans to install permanent range improvements on the site at an estimated cost of \$400,000 to support the training of a Reserve F-4 Squadron. The 2,800 acre range has been leased since 1965. The leases recently expired and because of the continuing long term requirement for the range and the degree of contamination in the strike area, the Navy intends to acquire a permanent easement interest in the property at an estimated cost of \$430,000.

QUESTIONS SUBMITTED BY SENATOR SAM NUNN

Senator NUNN. From strictly an engineering and construction standpoint, would it make sense to provide a funding level for Kings Bay over the next three years to insure the needed site preparation and utilities infrastructure is in place in the event acceleration of construction at Kings Bay is necessary? In other words, since the Navy intends to construct an east coast Trident base, is it beyond the scope of reason that something could occur either with the Soviet Union threat, our own strategic requirements or based on problems with other strategic force problems that would require an acceleration of Kings Bay construction? Without the needed infrastructure, would the Navy be limited in the amount of acceleration that could be accomplished? How much of the original fiscal year 1982 request would be needed to preserve this option and would contribute to sound site preparation?

ANSWER. Yes, from a construction standpoint it makes sense to continue with the design and construction effort at Kings Bay. All of the original fiscal year 1982 request (\$77 million in projects and \$17.1 million in planning and design) is needed to provide necessary projects, sound site preparation and utilities infrastructure to preserve an option to support a 1989 Initial Operation Capability date at Kings Bay for the D-5 missile. The infrastructure and site work was originally planned in fiscal years 1982, 1983 and 1984 to allow construction of the Trident training facility and drydock, originally planned for fiscal year 1984, and the strategic weapons facilities, originally planned to start construction in fiscal year 1985.

Senator NUNN. From strictly an operational standpoint and threat analysis, does it make any sense to base all our \$1.2 billion a copy Trident submarines with both our Trident I and Trident II missile facilities at one base in the Northwest United States which requires highly channelized movements both coming in and going out?

ANSWER. To support a preemptive threat which could make the strategic submarine force vulnerable, a majority of SSBNs at sea would have to be simultaneously detected, localized and attacked. The development of the longer range Trident missile will permit patrol operations in areas more than ten times the size of the current Poseidon missile patrol areas thus increasing Soviet ASW search areas significantly. The deployment of strategic submarines with Trident I missiles in the Atlantic has started this increase in operating areas. The deployment of the Trident submarine with Trident I missiles in the Pacific will continue the expansion in operating areas and will present the Soviets with a two ocean ASW problem. There is also a strategic targeting advantage of range and flexibility gained by these operations in both Atlantic and Pacific. The continued operation of Posei-

don submarines with Trident I missiles in the Atlantic into the 1990s will continue this two ocean capability.

An Atlantic Trident submarine facility will be necessary to continue a two ocean capability as the Poseidon submarines are phased out. With a 1992 IOC at Kings Bay, the maximum number of Trident submarines that would operate from Bangor is around twelve and this number for only a short period. This base timing for Kings Bay will permit deployment of the Trident force in the Atlantic before retirement of the Poseidon force and deployment of all Trident ships.

Senator NUNN. Does it make the Soviet ASW job easier and would it be risky from a U.S. national security standpoint?

ANSWER. Operating Trident submarines from a single Pacific base will not decrease the Soviet ASW problem as long as strategic submarines are also operated from Atlantic bases. Operation of Poseidon submarines with Trident I missiles in the Atlantic is planned into the 1990s. This will present a continuing two ocean ASW problem to the Soviets. Deployment of Trident submarines from an Atlantic base will be necessary to continue this two ocean ASW challenge as the older strategic submarines are phased out.

Senator NUNN. How long does it take a SSBN to get to open ocean areas from the Bangor site, from the Kings Bay site?

ANSWER. It is planned for the Trident submarine to dive [deleted] in the Strait of Juan de Fuca. The transit time from Bangor to the diving point will be about [deleted]. Similarly, the transit time from Kings Bay to the diving point at about the [deleted] is about [deleted].

Senator NUNN. What potential problems can you foresee with any decision to construct Trident II missile facilities at Bangor or to operate more than 10 submarines there?

ANSWER. It is not expected that any decision to construct Trident II missile facilities at Bangor or operate more than 10 submarines there, as now envisioned, will pose problems. Some construction of additional facilities would be required. For the most part this construction would involve additions to functional areas already in existence, so little environmental impact is expected. The period of time of operating one or two more Trident submarines from Bangor should last only about 2½ years so the impact for this short period should be minimal.

Senator NUNN. Would any environmental studies be required and what type of problems, such as the protests which occurred during previous years?

ANSWER. An assessment will be required to determine if a supplement to the present Environmental Impact Statement is required.

It is not possible to predict protests and similar problems that might occur at Bangor. Past protests at Bangor have focused primarily on nuclear proliferation.

Senator NUNN. Were there any problems of this nature encountered at Kings Bay during the study process and construction to date?

ANSWER. No significant problems of an environmental nature or protests have been noted during the study process or construction of Kings Bay facilities to date.

Senator NUNN. If the Navy decides to construct D-5 support facilities at Bangor first (as appears to be the case), when does the Navy now plan to provide or request funding to construct D-5 support facilities at Kings Bay (provide fiscal year and amounts for each fiscal year)? Based on the revised IOC for Kings Bay of 1992, please provide a funding profile of planned requests both in planning and design, military construction and family housing for Kings Bay starting with fiscal year 1982 through the IOC date?

ANSWER. Based on a 1992 D-5 IOC at Kings Bay, the Navy intends to flatten the construction profile, providing utilities, roads and quality-of-life facilities in fiscal year 1982 and fiscal year 1983 which are required for both the existing Poseidon mission as well as the Trident mission at Kings Bay, Ga. The dredging project now planned for fiscal year 1984 will provide fill material for the Strategic Weapons Facility (SWF) area, and other utilities and road projects in fiscal year 1985 and fiscal year 1986 will begin the infrastructure for the SWF. Based on a Kings Bay IOC of 1992, the Navy would request funding to begin construction of D-5 unique missile production facilities in fiscal year 1988. A possible funding profile from fiscal year 1982 through fiscal year 1984 is shown below. The profile from fiscal year 1985 through fiscal year 1992 is under study. The first step in development of this profile will be the preparation of an optimum construction sequence for these years. The second step will be to then match a budget profile with this optimum construction schedule.

[Dollar amounts in millions]

	1982	1983	1984	To complete
Construction.....	\$13.2	\$28.2	\$45.3	\$1,600
Plan and design.....	2.8	12.2	18.8	100
Total, military construction.....	16.0	40.4	64.1	1,700
Family housing.....	12.7	0	0	100
Grand total.....	28.7	40.4	64.1	1,800

Senator NUNN. What are the current plans in terms of Poseidon submarines, Trident submarines and the mix of missiles in operating SSBNs in the Atlantic and Pacific Ocean areas?

ANSWER. Poseidon submarines, 31 in all, will continue to operate in the Atlantic Ocean until their planned retirement in the 1990s. Of these 31 submarines, 12 are in the process of have been converted to carry the Trident-I (C-4) missile. The remainder carry the Poseidon (C-3) missile and will not be converted. The first Trident submarine will operate from the Submarine Base in Bangor, Washington and will be armed with the Trident-I (C-4) missile. The Trident-II (D-5) missile will be introduced in the Pacific at its IOC of 1989. When Trident Base at Kings Bay, Ga. becomes operational in 1992, the Trident submarines deploying from there will be armed with the Trident-II (D-5) missile.

Senator NUNN. Where are the Poseidon submarines operating now and where will they be operating as the first ten Trident submarines phase-in, as the second increments of Trident's phase-in?

ANSWER. Poseidon submarines operate from three bases: Holy Loch, Scotland; Charleston, S.C.; and Kings Bay, Ga. They will continue to operate from these bases until their planned retirement in the 1990s. The first Trident submarines will be based in the Pacific and they will not affect basing of Poseidon submarines. Trident submarines are to be based in the Atlantic at Kings Bay, Ga. when the Trident base becomes operational in 1992 and the likewise will not affect basing of Poseidon submarines.

Senator NUNN. What is the hull life of the Poseidon submarines and their current retirement date?

ANSWER. The originally conceived service life of a Poseidon submarine was 20 years. It was later determined by NAVSEA that an extension to [deleted] was feasible. The planned retirement of 31 Poseidon submarines commences in fiscal year [deleted] and completes in fiscal year [deleted].

Senator NUNN. In March 1981, Admiral Murray, Trident Project Manager, testified that the initial Trident submarine No. 11, to be based at Kings Bay is "projected for calendar year 1990."

This was based on a total number of 15 Tridents in the 5-year program and a resumed procurement rate of 3 every 2 years in fiscal year 1987.

What is the current 5-year procurement rate and does the amended budget slow down Trident submarine procurement from the levels planned in March?

ANSWER. The current 5-year procurement rate for Trident submarines is based on the Navy amended program proposal of 16 September 1981. This rate is:

Fiscal year:	Quantity
1982	0
1983	2
1984	1
1985	1
1986	1
Total	5

This level is reduced by one ship from the levels planned in March. The previous rate was:

Fiscal year:	Quantity
1982	1
1983	1
1984	1
1985	2
1986	1
Total	6

Senator NUNN. In March 1981, the Navy states, "... assuming the Trident II missile program is approved, one of the early operating Trident submarines would probably be modified and be the first to carry the Trident II missile and deploy as the first unit from Kings Bay." The Navy added that this plan would enable its arrival at Kings Bay at the originally scheduled IOC date of late 1989.

In other words, it appears that the Navy's plans for Kings Bay were not dictated entirely on the construction rates of new Tridents from hull No. 11 and beyond.

At the proposed minimum funding level, what flexibility will the Navy have to operate out of Kings Bay if changes in the Soviet threat or target base occur or if other unforeseen developments mandate an earlier IOC?

In other words, what happens if the Navy, for whatever reason, say the delay in land-based hard target capability, decides Kings Bay construction has to be accelerated, would not a higher level of funding preserve all your options as well as meet your previously stated operational and targeting requirements?

ANSWER. Previous Navy Plans for Kings Bay were not dictated entirely on Trident hull construction rates from hull No. 11 and beyond. Plans were also based on preserving the option to initially deploy the Trident II missile from Kings Bay were such a decision to be made. A higher level of funding would provide completion of Kings Bay earlier and would provide a greater degree of operational flexibility for Trident deployment. However, no threat is projected that currently dictates preserving the 1989 IOC at Kings Bay.

QUESTIONS SUBMITTED BY SENATOR GARY HART

Senator HART. Included in the Mil Con Bill of 1981 is an authorization for the acquisition of 244,000 acres of range land in Southern Colorado for mechanized maneuver training by the 4th Infantry Division (MECH) now stationed at Fort Carson, Colorado. For the last several years the Army has indicated that the acquisition of this additional training land for Fort Carson was essential to the strengthening of the 4th Division's ability to effectively train its personnel in maneuver tactics and that failure to acquire this additional land would significantly reduce the military readiness of the 4th Division. Is the acquisition of the Pinon Canyon parcel still a high priority goal for the Army?

ANSWER. In response to the question of the Army's priority for acquiring additional training lands for Fort Carson, the project remains the Army's highest priority training land acquisition. Failure to acquire the Pinon Canyon land parcel in southeastern Colorado will result in continued degradation of the 4th Division's ability to train over realistic ground distances that are anticipated in actual combat as well as a continued environmental degradation of existing over-utilized training areas at Fort Carson.

Senator HART. The environmental impact study prepared by the Army on the proposed Pinon Canyon parcel delineates a series of environmental mitigation measures which are designed to reduce any environmental damage to the parcel as a result of mechanized training. In an effort to ensure full Congressional support for the Army's efforts to protect the environment in the Pinon Canyon parcel, I have proposed an amendment which will require the Army to adhere to all environmental mitigation measures including those regarding salinity, outlined in the environmental impact statement or the proposed acquisition of additional training land. Does the Department of the Army anticipate any significant problems in meeting such a requirement and does the Army support such an amendment?

ANSWER. Concerning environmental mitigation measures, the Army believes that the measures outlined in its environmental impact statement will mitigate environmental damage to the parcel. If through the substantial base line environment surveys and monitoring efforts programed for the parcel, it is determined that additional mitigation measures become necessary, the Army will seek funding support from Congress to implement corrective measures. The Army intends to comply with the requirements of the environmental impact statement and anticipates no significant problems in doing so. Although the Army does not oppose an amendment concerning adherence to the environmental impact statement, in view of our intent to comply and the fact that the National Environmental Policy Act adequately protects the public interest, the Army believes that an amendment as proposed is unnecessary.

Senator THURMOND. I think that completes the hearing. We will stand adjourned.

[Whereupon, at 10:58 a.m., the subcommittee was adjourned.]

INDEX OF INSTALLATIONS

A

	Page
Aberdeen Proving Ground, Md.....	3
Adak, Alaska:	
Naval Security Group Activity.....	15, 285
Naval Station.....	10
Aerospace Center, St. Louis, Mo.....	28
Air Force Academy, Colorado Springs, Colo.....	23
Alameda, Calif., Naval Air Station.....	10, 284, 304, 337
Altus AFB, Okla.....	415
Andrews Air Force Base, Md.....	20, 410
Annapolis, Md., Naval Regional Medical Clinic.....	12, 284
Anniston Army Depot, Ala.....	46
Army Materials and Mechanics Research Center, Mass.....	3
Army Reserve Center, Omaha, Nebr.....	195
Arnold AFS, Tenn.....	395
Arnold Engineering Development Center, Tenn.....	19, 378, 429
Atlantic Fleet Home Ports.....	292

B

Bangor, Wash., Submarine Base.....	10, 283, 306, 308
Barbers Point, Hawaii, Naval Air Station.....	10, 284
Barking Sands, Hawaii, Pacific Missile Range.....	12, 284
Barksdale Air Force Base, La.....	21
Barnes Municipal Airport, Mass.....	438
Barstow, Calif., Marine Corps Logistics Base.....	8
Bay St. Louis, Miss., Naval Ocean Research and Development Activity.....	9
Bayonne Terminal, N.J.....	5
Belgium.....	409
Bergstrom Air Force Base, Tex.....	22
Bethesda, Md.:	
David W. Taylor Naval Ship Research and Development Center.....	12
National Naval Medical Center.....	12
Blytheville Air Force Base, Ark.....	21, 373, 386
Bolling Air Force Base, District of Columbia.....	20, 27, 157
Bremerton, Wash.:	
Bangor, Naval Submarine Base.....	10, 283, 306, 308
Puget Sound Naval Shipyard.....	12, 284, 333
Brooks Air Force Base, Tex.....	19
Brunswick, Maine, Naval Air Station.....	10, 283, 333, 337
Buckley Air National Guard Base, Colo.....	19, 50

C

Cameron Station, Va.....	4
Camp Lejeune, N.C., Marine Corps Base.....	8
Camp New Amsterdam, Netherlands.....	24
Camp Pendleton, Calif., Marine Corps Base.....	8
Canal Zone.....	50
Cannon Air Force Base, N. Mex.....	22
Cape Canaveral Air Force Station, Fla.....	19
Carlisle Barracks, Pa.....	2
Carswell Air Force Base, Tex.....	21, 373, 386, 415
Castle Air Force Base, Calif.....	21
Cecil Field, Fla., Naval Air Station.....	10, 283
Chanute Air Force Base, Ill.....	19, 34
Chase Field, Tex., Naval Air Station.....	11, 33

	Page
Charleston Air Force Base, S.C.	20
Charleston, S.C.:	
Charleston Naval Shipyard	12, 285, 326, 338
Naval Station	10, 296, 338
Naval Supply Center	12
Naval Weapons Station	12, 49, 337, 338
Cherry Point, N.C.:	
Marine Corps Air Station	9
Naval Air Rework Facility	12
China Lake, Calif., Naval Weapons Center	13
Circle Transit Station, Blenheim, New Zealand	15
Clark Air Base, Republic of the Philippines	23, 153
Classified Activity, Fort Belvoir, Va.	28
Columbus Air Force Base, Miss.	19
Concord, Calif., Naval Weapons Station	13
Corpus Christi Army Depot, Tex.	3, 47, 276
Crane, Ind.:	
Army Ammunition Plant Activity, Ind.	3
Naval Weapons Support Center	13
Croughton Royal Air Force Station, United Kingdom	29
Cuba	29

D

Dahlgren, Va., Naval Surface Weapons Center	13, 285
Dam Neck, Va., Fleet Command Training Center, Atlantic	11
David W. Taylor Naval Ship Research and Development Center, Bethesda, Md.	12
Davis-Monthan Air Force Base, Ariz.	22, 50
Defense Construction Supply Center, Columbus, Ohio	27
Defense Depot:	
Mechanicsburg, Pa.	28
Memphis, Tenn.	28
Ogden, Utah	28
Tracy, Calif.	28
Defense Fuel Support Point:	
Grand Forks, N. Dak.	28
Pearl City, Hawaii	28
Wake Island	29
Defense General Supply Center, Richmond, Va.	28
Defense installations, Mariana Islands	15, 337
Defense Intelligence Agency, Bolling AFB, Washington, D.C.	157
Defense Property Disposal Office:	
Fort Bragg, N.C.	28
Kaiserslautern, Germany	29
Dexheim, Germany	29
Diego Garcia Air Base, Indian Ocean	16, 23, 146, 152, 226, 318, 390, 391, 410, 431
District of Columbia:	
Bolling Air Force Base	20
Naval Research Laboratory	10
Walter Reed Army Medical Center	5, 250
Dover Air Force Base, Del.	20
Dyess Air Force Base, Tex.	21

E

Edzell, Scotland, Naval Security Group Activity	286
Eglin Air Force Base, Fla.	19
Egypt, various locations	23, 147, 152, 189, 207, 225, 226, 231, 390, 391, 431, 432
Eielson Air Force Base, Alaska	20
El Toro, Calif., Marine Corps Air Station	9, 32, 337
Ellsworth Air Force Base, S. Dak.	21, 373, 376, 386, 392
Elmendorf Air Force Base, Alaska	20
England Air Force Base, La.	22, 50

F

	Page
Fairchild Air Force Base, Wash.....	21, 373, 386, 395
Fallon, Nev., Naval Air Station.....	11, 284
F. E. Warren AFB, Wyo.....	395
Fleet activities, Yokosuka, Japan.....	16
Fleet Command Training Center:	
Atlantic, Dam Neck, Va.....	11
Pacific, San Diego, Calif.....	12, 284
Fleet Training Center, Norfolk, Va.....	338
Fort:	
Belvoir, Va.....	2, 28
Benjamin Harrison, Ind.....	3, 47, 248
Benning, Ga.....	3, 48, 250
Bliss, Tex.....	3, 209, 446
Bragg, N.C.....	2, 28
Campbell, Ky.....	2
Carson, Colo.....	2, 155, 208, 210, 213, 214, 216, 276
Detrick, Md.....	5
Dix, N.J.....	3, 181, 250
Douglas, Utah.....	2
Drum, N.Y.....	2, 33, 208
Eustis, Va.....	3, 248, 276
George G. Meade, Md.....	2, 28
Gordon, Ga.....	3, 446
Greely, Alaska.....	2
Hood, Tex.....	2, 208, 210, 229, 250, 276
Irwin, Calif.....	2, 32, 155, 208, 209, 210, 228, 230, 250
Jackson, S.C.....	181, 222, 223
J. M. Wainwright, Alaska.....	2
Knox, Ky.....	3, 35, 248
Leavenworth, Kans.....	3, 446
Lee, Va.....	3
Leonard Wood, Mo.....	248
Lewis, Wash.....	2, 35
McClellan, Ala.....	3, 250
McCoy, Wis.....	248
Myer, Va.....	4
Monmouth, N.J.....	3, 250
Ord, Calif.....	276
Pickett, Va.....	3
Polk, La.....	2, 250, 276
Riley, Kans.....	2
Ritchie, Md.....	5, 276
Rucker, Ala.....	3
Sill, Okla.....	3, 209
Stewart/Hunter Army Air Field, Ga.....	2, 208, 229, 247, 248, 276
Story, Va.....	3
Francis E. Warren Air Force Base, Wyo.....	21
Fulda, Germany.....	29

G

George Air Force Base, Calif.....	22, 50
Germany.....	6, 23, 24, 28, 29, 155, 163, 167, 172, 205, 250, 389, 409, 446
Goddard Space Center, Md.....	372, 377
Grand Forks, N. Dak.:	
Defense Fuel Support Point.....	28
Grand Forks Air Force Base.....	21
Great Lakes, Ill., Naval Training Center.....	11, 284
Greenham-Common, United Kingdom.....	33
Greenland.....	23
Griffiss Air Force Base, N.Y.....	21
Grissom Air Force Base, Ind.....	21

Groton, Conn., New London:	Page
Naval Submarine Base.....	10, 292
Naval Submarine Support Facility.....	10
Guam, Naval Communications Area Master Station.....	338
Gulfport, Miss., Naval Construction Battalion Center.....	13

H

Hanscomb AFB, Mass.....	415
Hampyong Communication Station, Korea.....	23
Hawaii:	
Honolulu, Naval Communication Area Master Station, Eastern Pacific.....	15
Honolulu, Navy Public Works Center.....	34
Kaneohe, Marine Corps Air Station.....	9
Lualualei, Naval Communications Area Master Station, Eastern Pacific.....	15, 285
Oahu, Camp H. M. Smith.....	9
Hellenikon, Greece.....	24
Hickam Air Force Base, Hawaii.....	21
Hill AFB, Utah.....	396
Holston Army Ammunition Plant, Tenn.....	4
Holloman Air Force Base, N. Mex.....	22
Homestead Air Force Base, Fla.....	22
Howard Air Base, Canal Zone.....	50
Hunghae Communication Station, Korea.....	23
Hunter Liggett, Calif.....	276
Hurlburt Field, Fla.....	22

I

Indian Head, Md.:	
Naval Explosive Ordnance Disposal School.....	11
Naval Ordnance Station.....	13, 285, 333
Indian Ocean/Persian Gulf.....	23, 152, 170, 172, 318
Indiana Ammunition Plant.....	4
Incirlik Air Base, Turkey.....	24, 33
Iowa Army Ammunition Plant, Iowa.....	4, 247
Italy.....	163, 172, 286, 374, 409

J

Jacksonville, Fla.:	
Naval Air Rework Facility.....	13, 285
Naval Air Station.....	10, 333
Japan.....	5, 23, 29, 153, 305, 390

K

Kadena Air Base, Japan.....	23
Kansas Army Ammunition Plant, Kans.....	4
Kawakami, Japan.....	5
Keesler Air Force Base, Miss.....	19, 415
Kelly Air Force Base, Tex.....	18
Kenya.....	16, 152, 187, 318, 319
Key West, Fla., Naval Air Station.....	18
Keyport, Wash., Naval Undersea Warfare Engineering Station.....	13, 285
K. I. Sawyer Air Force Base, Mich.....	21
King Salmon Airport, Alaska.....	20
Kings Bay, Kingsland, Ga., Naval Submarine Support Base.....	10, 33, 150, 174, 283, 306, 309, 311, 316, 445, 451, 473, 475
Kirtland Air Force Base, N. Mex.....	20, 35
Kittery, Maine, Portsmouth Naval Shipyard.....	13
Keflavik, Iceland.....	15, 16, 285, 286, 337
Korea.....	5, 6, 23, 29, 50, 153, 155, 172, 206, 209, 390
Kwajalein Missile Range.....	5
Kunsan Air Base, Korea.....	23
Kwang-Ju Air Base, Korea.....	23

V

L

	Page
Lajes Field, Portugal.....	23, 190, 390, 432, 433
Lake City Army Ammunition Plant, Mo.....	4
Lakehurst, N.J., Naval Air Engineering Center.....	13
Landstuhl Air Base, Germany.....	29
Langley Air Force Base, Va.....	22
Laughlin Air Force Base, Tex.....	19
Lemoore, Calif., Naval Air Station.....	11
Letterkenny Army Depot, Pa.....	47, 276
Lexington-Blue Grass Army Depot, Ky.....	3
Liberia.....	50
Little Creek, Va., Naval Amphibious Base.....	10, 283, 295
Little Rock Air Force Base, Ark.....	20
Location project cost adjustments.....	358
Lone Star Army Ammunition Plant, Tex.....	47, 276
Long Beach, Calif.: Naval Shipyard.....	49
Naval Station.....	11, 284, 302
Longhorn Army Ammunition Plant, Tex.....	4
Loring Air Force Base, Maine.....	21
Los Angeles Air Force Station, Calif.....	19
Lowry Air Force Base, Colo.....	19
Lualualei, Hawaii, Naval Communications Area Master Station, Eastern Pacific.....	15, 285
Luke Air Force Base, Ariz.....	22

M

MacDill Air Force Base, Fla.....	22, 391
Malmstrom AFB, Mont.....	396, 415
March Air Force Base, Calif.....	21, 415
Mare Island Naval Shipyard, Vallejo, Calif.....	15, 304, 338
Mariana Islands, defense installations.....	15, 153, 337
Marine Corps Air Station: Cherry Point, N.C.....	9
El Toro, Calif.....	9, 32, 337
Kaneohe Bay, Hawaii.....	9
New River, N.C.....	9
(Helicopter) Tustin, Calif.....	9
Yuma, Ariz.....	9
Marine Corps Air-Ground Combat Center, Twentynine Palms, Calif.....	9, 34
Marine Corps Base: Camp H. M. Smith, (Pacific) Oahu, Hawaii.....	9
Camp Lejeune, N.C.....	8
Camp Pendleton, Calif.....	8
Marine Corps Development and Education Command, Quantico, Va.....	9
Marine Corps Logistics Base, Barstow, Calif.....	8
Marine Corps Recruit Depot: Parris Island, S.C.....	9
San Diego, Calif.....	9
Mather Air Force Base, Calif.....	19
Mayport, Fla., Naval Station.....	10, 297, 333
McChord Air Force Base, Wash.....	20
McClellan Air Force Base, Calif.....	3, 18, 376, 392, 415, 436
McConnell Air Force Base, Kans.....	21
McGuire Air Force Base, N.J.....	20
Mechanicsburg, Pa., Defense Depot.....	28
Memphis, Tenn.: Defense Depot.....	28
Naval Air Station.....	11, 284
Milan Army Ammunition Plant, Tenn.....	4
MILCON construction projects: Added authorizations and appropriations for fiscal year 1982.....	441
Construction reductions.....	446

	Page
Mildenhall, United Kingdom.....	35
Minot Air Force Base, N. Dak.....	21
Miramar, Calif., Naval Air Station.....	338
Misawa Air Base, Japan.....	29
Moffett Field, Calif., Naval Air Station.....	11
Moody Air Force Base, Ga.....	22
Mountain Home Air Force Base, Idaho.....	22
MX Support Complex, Norton AFB, Calif.....	180
Myrtle Beach Air Force Base, S.C.....	22

N

National Naval Medical Center, Bethesda, Md.....	12
National Training Center:	
Fort Irwin, Calif.....	210, 228, 230
Great Lakes, Ill.....	11
NATO infrastructure program.....	164
Naval activities:	
Kenya.....	16
Somalia.....	16
Naval Air Engineering Center, Lakehurst, N.J.....	13
Naval Air Facility, Sigonella, Italy.....	16, 286
Naval Air Propulsion Center, Trenton, N.J.....	14
Naval Air Rework Facility:	
Cherry Point, N.C.....	12
Jacksonville, Fla.....	13, 285
Norfolk, Va.....	13, 285
North Island, San Diego, Calif.....	14
Naval Air Test Center, Patuxent River, Md.....	14
Naval Air Station:	
Alameda, Calif.....	10, 284, 304, 337
Barbers Point, Hawaii.....	10, 284
Brunswick, Maine.....	10, 283, 333, 337
Cecil Field, Fla.....	10, 283
Chase Field, Tex.....	11, 33
Cubi Point, Republic of the Philippines.....	15, 286
Dallas, Tex.....	327
Fallon, Nev.....	11, 284
Jacksonville, Fla.....	10, 333
Key West, Fla.....	18
Lemoore, Calif.....	11
Memphis, Millington, Tenn.....	11, 284
Miramar, Calif.....	338
Moffett Field, Calif.....	11
North Island, Calif.....	11, 300
Oceana, Va.....	10, 284, 338, 368
Pensacola, Fla.....	12, 284, 338
Naval Amphibious Base, Little Creek, Va.....	10, 283, 295
Naval Communication Area Master Station:	
Eastern Pacific, Honolulu, Hawaii.....	15, 285
WESTPAC, Guam.....	338
Naval Communications Station:	
Keflavik, Iceland.....	16, 286, 337
Ponce, Puerto Rico.....	16, 286
Stockton, Calif.....	15, 285
Naval Complex, San Diego, Calif.....	33
Naval Complex Warminster/Willow Gove, Pa.....	33
Naval Construction Battalion Center, Gulfport, Miss.....	13
Naval Education and Training Center, Newport, R.I.....	11
Naval Explosive Ordnance Disposal School, Indian Head, Md.....	11
Naval Facility, Brawdy, Wales, United Kingdom.....	15, 285
Naval Justice School, Newport, R.I.....	11
Naval Ocean Research and Development Activity, Bay St. Louis, Miss.....	9, 283
Naval Ordnance Station, Indian Head, Md.....	13, 285, 333
Naval Regional Medical Clinic, Annapolis, Md.....	12, 284

	Page
Naval Research Laboratory, Washington, D.C.	10, 283
Naval Security Group Activity:	
Adak, Alaska	15, 285
Edzell Scotland, United Kingdom	16, 286
Naval Ship Repair Facility, Subic Bay, Republic of the Philippines	16
Naval Shipyard:	
Charleston, S.C.	285, 338
Long Beach, Calif.	49
Mare Island, Calif.	338
Norfolk, Va.	333
Pearl Harbor, Hawaii	14, 285, 338
Naval Station:	
Adak, Alaska	10
Charleston, S.C.	10, 296, 338
Guantanamo Bay, Cuba	29
Keflavik, Iceland	15, 285
Long Beach, Calif.	11, 284, 302
Mayport, Fla.	10, 297, 333
Norfolk, Va.	10, 284, 333
Pearl Harbor, Hawaii	11
Rota, Spain	16
San Diego, Calif.	301
Subic Bay, Republic of the Philippines	16, 286
Naval Submarine Base:	
Bangor, Bremerton, Wash.	10, 283, 306, 308
New London, Groton, Conn.	10, 49, 284
Pearl Harbor, Hawaii	11, 284
Naval Submarine Support Base, Kings Bay, Kingsland, Ga.	10,
33, 159, 174, 283, 309, 311, 316, 445, 451, 473, 475	
Naval Submarine Support Facility, New London, Groton, Conn.	10
Naval Supply Center:	
Charleston, S.C.	12
Norfolk, Va.	13, 285
Oakland, Calif.	14
Pearl Harbor, Hawaii	14
San Diego, Calif.	14
Naval Support Facility, Diego Garcia, Indian Ocean	16, 285
Naval Surface Weapons Center, Dahlgren, Va.	13, 285
Naval Surface Weapons Center Detachment, White Oak, Md.	15
Naval Technical Training Center, Pensacola, Fla.	49
Naval Training Center:	
Great Lakes, Ill.	11, 284
Orlando, Fla.	11, 284, 337
San Diego, Calif.	12
Naval Undersea Warfare Engineering Station, Keyport, Wash.	13, 285
Naval Underwater Systems Center Detachment, New London, Conn.	13
Naval Weapons Center, China Lake, Calif.	13
Naval Weapons Station:	
Charleston, S.C.	12, 49, 337, 338
Concord, Calif.	13
Seal Beach, Calif.	14
Naval Weapons Support Center, Crane, Ind.	13
Navy Public Works Center:	
Honolulu, Hawaii	34
Pearl Harbor, Hawaii	14, 285
Pensacola, Fla.	14
San Francisco, Calif.	14, 338
Navy Submarine Training Center, Pearl Harbor	338
Nellis Air Force Base, Nev.	22, 35
Netherlands	24, 172, 409
New River, N.C., Marine Corps Air Station	9
New London, Conn., Naval Submarine Base	10, 49, 284
New London, Conn., Naval Underwater Systems Center Detachment	13
New Zealand, Circle, Transit Station, Blenheim	15
Newport Army Ammunition Plant, Ind.	4

	Page
Newport R.I.:	
Naval Education and Training Center.....	11
Naval Justice School.....	11
NORAD Cheyenne Mountain Complex, Colo.....	20
Norfolk Naval Shipyard, Portsmouth, Va.....	14
Norfolk, Va.:	
Fleet Training Center.....	338
Naval Air Rework Facility.....	13, 285
Naval shipyard.....	333
Naval Station.....	10, 284, 333
Naval Supply Center.....	13, 285
Regional Waste Disposal System.....	458
North Island, Calif., Naval Air Station.....	11, 300
Norton Air Force Base, Calif.....	20, 158, 180, 181, 194, 386

O

Oakland, Calif., Naval Supply Center.....	14
Oceana, Va., Naval Air Station.....	10, 284, 338, 368
Offutt Air Force Base, Nebr.....	21, 35
Ogden, Utah, Defense Depot.....	28
Oman.....	24, 152, 187, 226, 324, 390, 435, 436
Orlando, Fla., Naval Training Center.....	11, 284, 337
Osan Air Base, Korea.....	23

P

Pacific Fleet Home Ports.....	298
Pacific Missile Range, Barking Sands, Hawaii.....	12, 284
Parris Island, Marine Corps Recruit Depot.....	9, 324
Patch Barracks, Vaihingen, Germany.....	28
Patrick Air Force Base, Fla.....	19
Patuxent River, Md., Naval Air Test Center.....	14
Pearl City, Hawaii, Defense Fuel Support Point.....	28
Pearl Harbor, Hawaii:	
Naval Shipyard.....	285, 338
Naval Station.....	11
Naval Submarine Base.....	11, 284
Naval Supply Center.....	14
Naval Public Works Center.....	14, 285
Navy Submarine Training Center.....	338
Pearl Harbor Naval Shipyard.....	14
Pease Air Force Base, N.H.....	21, 415
Pensacola, Fla.:	
Naval Air Station.....	12, 284, 338
Navy Public Works Center.....	14
Naval Technical Training Center.....	49
Pentagon Building, Va.....	20
Peterson Air Force Base, Colo.....	21
Philadelphia Naval Shipyard, Philadelphia, Pa.....	14
Plattsburgh Air Force Base, N.Y.....	21
Ponce, Puerto Rico, Naval Communications Station.....	16, 286
Pope Air Force Base, N.C.....	20
Portsmouth Naval Shipyard, Kittery, Maine.....	13
Portsmouth, Va., Norfolk Naval Shipyard.....	14
Presidio of San Francisco, Calif.....	2
Public Works Center, Honolulu, Hawaii.....	34
Puget Sound Naval Shipyard, Bremerton, Wash.....	12, 284, 326, 333
Pusan, Korea.....	29

Q

Quantico, Va., Marine Corps Development and Education Command.....	9
--	---

R

Radford Army Ammunition Plant, Va.....	4
Randolph Air Force Base, Tex.....	19, 35

	Page
Reception Station at Fort Benning, Ga.....	48
Red River Army Depot, Tex.....	4, 47, 250, 276
Redstone Arsenal, Ala.....	4
Reese Air Force Base, Tex.....	19
Republic of the Philippines.....	15, 16, 23, 153, 155, 286
Rhein-Main Air Base, Germany.....	23
Richards-Gebaur Air Force Base, Mo.....	50
Richmond, Va., Defense General Supply Center.....	28
Rickenbacker Air Force Base, Ind.....	22
Riverbank Army Ammunition Plant, Calif.....	47, 48
Roberts International Airport, Liberia.....	50
Robins Air Force Base, Ga.....	18
Rock Island Arsenal, Ill.....	4
Roosevelt Roads Naval Station.....	338
Rota, Spain, Naval Station.....	16

S

San Diego Calif.:	
Fleet Command Training Center, Pacific.....	12, 284
Marine Corps Recruit Depot.....	9
Naval Complex.....	33
Naval Station.....	301
Naval Supply Center.....	14
Naval Training Center.....	12
North Island, Naval Air Rework Facility.....	14
San Francisco, Calif., Navy Public Works Center.....	14, 338
San Vito Air Station, Italy.....	24
Savannah Army Ammunition Depot, Ill.....	4
Schofield Barracks, Hawaii.....	47, 276
Schwaebisch Hall, Germany.....	29
Scott Air Force Base, Ill.....	20
Seal Beach, Calif., Naval Weapons Station.....	14
Seneca Army Depot, N.Y.....	276
Seoul, Korea.....	29
Seymour-Johnson Air Force Base, N.C.....	22, 157
Sheppard Air Force Base, Tex.....	19, 155
Sigonella, Italy, Naval Air Facility.....	16
Somalia.....	16, 152, 190, 226, 318, 320, 324
Spain.....	24
St. Louis, Mo., Aerospace Center.....	28
Stockton, Calif., Naval Communications Station.....	25, 285
Sunny Point Army Terminal, N.C.....	5, 250
Sunnyvale Air Force Station, Calif.....	19

T

Taegu Air Force Base, Korea.....	50
Thule Air Base, Greenland.....	23
Tinker Air Force Base, Okla.....	18, 375
Tobyhanna Army Depot, Pa.....	4, 46
Tooele Army Depot, Utah.....	4
Tracy, Calif., Defense Depot.....	28
Travis Air Force Base, Calif.....	20, 155, 376, 392
Trenton, N.J., Naval Air Propulsion Center.....	14
Turkey.....	6, 24, 33, 178, 206, 209
Tustin, Calif., Marine Corps Air Station (helicopter).....	9
Twentynine Palms, Calif., Marine Corps Air Ground Combat Center.....	9, 34
Tyndall Air Force Base, Fla.....	22, 415

U

Unit Training Equipment Site (UTES), Mead, Nebr.....	194
United Kingdom.....	15, 16, 24, 29, 33, 35, 155, 172, 226, 285, 374, 388, 408, 409
Upper Heyford, United Kingdom.....	35
U.S. Army Forces Command, Overseas—Egypt.....	5

X

U.S. Army Hospital, Fort Jackson, S.C.-----	4-----	Page 222
U.S. Air Force Academy, Colo-----		23
U.S. Military Academy, West Point, N.Y-----		5, 47

V

Vallejo, Calif., Mare Island Naval Shipyard-----		15
Vance Air Force Base, Okla-----		19
Vandenberg Air Force Base, Calif-----	22, 158, 159, 193, 194, 372, 377, 378	378
Vilseck, Germany-----		29

W

Warren AFB, Wyoming-----	5-----	21
Wake Island, Defense Fuel Support Point-----		29, 153
Walter Reed Army Medical Center, District of Columbia-----		5, 250
West Point, N.Y., U.S. Military Academy-----		5
White Oak, Md., Naval Surface Weapons Center Detachment-----		15
White Sands Missile Range, N. Mex-----		47
Whiteman Air Force Base, Mo-----		22
Williams Air Force Base, Ariz-----	19, 376, 392, 396	396
Willow Grove, Pa., Naval Complex Warminster-----		33
Wright-Patterson Air Force Base, Ohio-----	18, 155, 376, 392, 395	395
Wurtsmith Air Force Base, Mich-----	22, 376, 392	392

Y

Yokosuka, Japan, Fleet activities-----		16
Yokota Air Base, Japan-----		29
Yuma, Ariz., Marine Corps Air Station-----		9

INSTALLATION INDEX BY STATE

	Page
Alabama	
Army:	
Anniston Army Depot.....	46
Fort McClellan.....	3, 18, 376, 392, 415, 436
Fort Rucker.....	3
Redstone Arsenal.....	4
Alaska	
Air Force:	
Eielson AFB.....	20
Elmendorf AFB.....	20
King Salmon Airport.....	20
Army:	
Fort Greely.....	2
Fort J. M. Wainwright.....	2
Navy:	
Naval Security Group Activity, Adak.....	15, 285
Naval Station, Adak.....	10
Arizona	
Navy:	
Marine Corps Air Station, Yuma.....	9
Air Force:	
Davis-Monthan AFB.....	22, 50
Luke AFB.....	22
Williams AFB.....	19, 376, 392, 396
Arkansas	
Air Force:	
Blytheville AFB.....	21, 373, 386
Little Rock AFB.....	20
California	
Army:	
Fort Irwin.....	2, 32, 155, 208, 209, 210, 228, 230, 250
Fort Ord.....	276
Presidio of San Francisco.....	2
Riverbank Army Ammunition Plant.....	47, 48
Navy:	
Fleet Combat Training Center, Pacific, San Diego.....	12
Long Beach Naval Shipyard, Long Beach.....	49
Mare Island Naval Shipyard, Vallejo.....	15
Marine Corps Air Ground Combat Center, Twentynine Palms.....	9, 34
Marine Corps Air Station (helicopter), Tustin.....	9
Marine Corps Air Station, El Toro.....	9, 32, 337
Marine Corps Base, Camp Pendleton.....	8
Marine Corps Logistics Base.....	8
Marine Corps Recruit Depot, San Diego.....	9
Naval Air Rework Facility, North Island, San Diego.....	14
Naval Air Station, Alameda.....	10
Naval Air Station, Lemoore.....	11
Naval Air Station, Miramar.....	338
Naval Air Station, Moffett Field.....	11
Naval Air Station, North Island.....	11
Naval Complex, San Diego.....	33
Naval Communications Station, Stockton.....	15
Naval Station, Long Beach.....	11
Naval Station, San Diego.....	301

California—Continued

Navy—Continued

Page

Naval Shipyard, Long Beach.....	49
Naval Supply Center, Oakland.....	14
Naval Supply Center, San Diego.....	14
Naval Training Center, San Diego.....	12
Naval Weapons Center, China Lake.....	13
Naval Weapons Station, Concord.....	13
Naval Weapons Station, Seal Beach.....	14
Navy Public Works Center, San Francisco.....	14, 338

Air Force:

Castle AFB.....	21
George AFB.....	22, 50
Los Angeles AFS.....	19
March AFB.....	21, 415
Mather AFB.....	19
McClellan AFB.....	3, 18, 376, 392, 415, 436
Norton AFB.....	20, 158, 180, 181, 194, 386
Sunnyvale AFS.....	19
Travis AFB.....	20, 155, 376, 392
Vandenberg AFB.....	22, 158, 159, 193, 194, 372, 377, 378

Defense Depot, Tracy.....

28

Colorado

Army: Fort Carson.....	2, 155, 208, 210, 213, 214, 216, 276
------------------------	--------------------------------------

Air Force:

Air Force Academy, Colorado Springs.....	23
Buckley Air National Guard Base.....	19, 50
Lowry AFB.....	19
NORAD Cheyenne Mountain Complex.....	20
Peterson AFB.....	21

Connecticut

Navy:

Naval Submarine Base, New London, Groton.....	10, 49, 284
Naval Submarine Support Facility, New London, Groton.....	10
Naval Underwater Systems Center Detachment, New London.....	13

District of Columbia

Army: Walter Reed Army Medical Center.....	5, 250
Navy: Naval Research Laboratory.....	10, 283
Air Force: Bolling AFB.....	20, 27, 157

Delaware

Air Force: Dover AFB.....	20
---------------------------	----

Florida

Air Force:

Cape Canaveral Air Force Station.....	19
Eglin AFB.....	19
Homestead AFB.....	22
Hurlburt Field.....	22
MacDill AFB.....	22, 391
Patrick AFB.....	19
Tyndall AFB.....	22, 415

Navy:

Naval Air Station, Cecil Field.....	10, 283
Naval Air Rework Facility, Jacksonville.....	13, 285
Naval Air Station, Jacksonville.....	10, 33
Naval Air Station, Key West.....	18
Naval Air Station, Pensacola.....	12, 284, 338
Navy Public Works Center, Pensacola.....	14
Naval Station, Mayport.....	10
Naval Technical Training Center, Pensacola.....	49
Naval Training Center, Orlando.....	11

Georgia		
Army:		Page
Fort Benning	3, 48, 250	
Fort Gordon	3, 446	
Fort Stewart	2, 208, 229, 247, 248, 276	
Navy:		
Naval Submarine Support Base, Kings Bay, Kingsland	10, 33, 159, 174, 283, 309, 311, 316, 445, 451, 473, 475	
Air Force:		
Moody AFB	22	
Robins AFB	18	
Hawaii:		
Army:		
Schofield Barracks	47, 276	
Navy:		
Marine Corps Air Station, Kaneohe	9	
Marine Corps Base, Camp H. M. Smith, Oahu	9	
Naval Air Station, Barbers Point	10, 284	
Naval Communication Area Master Station Eastern Pacific, Honolulu	15, 285	
Naval Station, Pearl Harbor	11	
Naval Submarine Base, Pearl Harbor	11, 284	
Naval Supply Center, Pearl Harbor	14	
Navy Public Works Center, Pearl Harbor	14	
Pacific Missile Range, Barking Sands	12, 284	
Pearl Harbor Naval Shipyard	14, 285, 338	
Public Works Center, Honolulu	34	
Air Force:		
Hickam AFB	21	
Defense Fuel Support Point, Pearl City	28	
Idaho:		
Air Force:		
Mountain Home AFB	22	
Illinois:		
Army:		
Rock Island Arsenal	4	
Savannah Army Depot	4	
Navy:		
Naval Training Center, Great Lakes	11	
Air Force:		
Chanute AFB	19, 34	
Scott AFB	20	
Indiana:		
Army:		
Crane Ammunition Plant Activity	3	
Fort Benjamin Harrison	2, 47, 248	
Indiana Army Ammunition Plant	4	
Newport Army Ammunition Plant	4	
Navy:		
Navy Support Facility, Diego Garcia	16, 285	
Naval Weapons Support Center, Crane	13	
Air Force:		
Grissom AFB	21	
Rickenbacker AFB	22	
Iowa:		
Army: Iowa Army Ammunition Plant	4, 247	
Kansas:		
Army:		
Fort Leavenworth	3, 446	
Fort Riley	2	
Kansas Army Ammunition Plant	4	
Air Force: McConnell AFB	21	

Kentucky		
Army:		Page
Fort Campbell	-----	2
Fort Knox	-----	3, 35, 248
Lexington-Blue Grass Army Depot	-----	3
Louisiana		
Army:		
Fort Polk	-----	2, 250, 276
Air Force:		
Barksdale AFB	-----	21
England AFB	-----	22, 50
Maine		
Navy:		
Naval Air Station, Brunswick	-----	10, 283, 333, 337
Naval Submarine base, Bangor	-----	10, 283, 308
Portsmouth Naval Shipyard, Kittery	-----	13
Air Force: Loring AFB	-----	21
Maryland		
Army:		
Aberdeen Proving Ground	-----	3
Fort Detrick	-----	5
Fort George G. Meade	-----	2, 28
Fort Ritchie	-----	5, 276
Navy:		
National Naval Medical Center, Bethesda	-----	12
Naval Air Test Center, Patuxent River	-----	14
Naval Explosive Ordnance Disposal School, Indian Head	-----	11
Naval Ordnance Station, Indian Head	-----	13
Naval Regional Medical Clinic, Annapolis	-----	12
Naval Surface Weapons Center Detachment, White Oak	-----	15
Air Force: Andrews AFB	-----	20, 410
David W. Taylor Naval Ship Research and Development Center, Bethesda	-----	12
Massachusetts		
Air Force: Hanscom AFB	-----	415
Army: Materials and Mechanics Research Center	-----	3
Michigan		
Air Force:		
K. I. Sawyer AFB	-----	21
Wurtsmith AFB	-----	22, 376, 392
Mississippi		
Navy:		
Naval Construction Battalion Center, Gulfport	-----	13
Naval Ocean Research and Development Activity, Bay St. Louis	-----	9, 283
Air Force:		
Columbus AFB	-----	19
Keesler AFB	-----	19, 415
Missouri		
Army:		
Fort Leonard Wood	-----	248
Lake City Army Ammunition Plant	-----	4
Air Force:		
Whiteman AFB	-----	22
Richards-Gebaur AFB	-----	50
Aerospace Center, St. Louis	-----	28
Montana		
Air Force: Malstrom AFB, Great Falls	-----	396, 415
Nebraska		
Air Force: Offutt AFB	-----	21, 35
Nevada		
Navy: Naval Air Station, Fallon	-----	11, 284
Air Force: Nellis AFB	-----	22, 35
New Hampshire		
Air Force: Pease AFB	-----	21, 415

	Page
New Jersey	
Army:	
Bayonne Terminal.....	5
Fort Dix.....	3, 181, 250
Fort Monmouth.....	3, 250
Navy:	
Naval Air Engineering Center, Lakshurst.....	13
Naval Air Propulsion Center, Trenton.....	14
Air Force: McGuire AFB.....	20
New Mexico	
Army: White Sands Missile Range.....	47
Air Force:	
Cannon AFB.....	22
Holloman AFB.....	22
Kirtland AFB.....	20, 35
New York	
Army:	
Fort Drum.....	2, 33, 208
U.S. Military Academy.....	5, 47
Air Force:	
Griffiss AFB.....	21
Plattsburgh AFB.....	21
North Carolina	
Army:	
Fort Bragg.....	2, 28
Sunny Point Terminal.....	5, 250
Navy:	
Marine Corps Air Station, Cherry Point.....	9
Marine Corps Air Station, New River.....	9
Marine Corps Base, Camp Lejeune.....	8
Naval Air Rework Facility, Cherry Point.....	12
Air Force:	
Pope AFB.....	20
Seymour-Johnson AFB.....	22, 157
Defense Property Disposal Office, Fort Bragg.....	28
North Dakota	
Air Force:	
Grand Forks AFB.....	21
Minot AFB.....	21
Defense Fuel Support Point, Grand Forks.....	28
Ohio	
Air Force:	
Rickenbacker AFB.....	22
Wright-Patterson AFB.....	18, 155, 376, 392, 395
Defense Construction Supply Center, Columbus.....	27
Oklahoma	
Army:	
Fort Sill.....	3, 209
Air Force:	
Altus AFB.....	415
Tinker AFB.....	18, 375
Vance AFB.....	19
Pennsylvania	
Army:	
Carlisle Barracks.....	2
Letterkenny Army Depot.....	47, 276
Tobyhanna Army Depot.....	4, 46
Navy:	
Philadelphia Naval Shipyard, Philadelphia.....	14
Naval Complex Warminster/Willow Grove.....	33
Defense Depot, Mechanicsburg.....	28
Rhode Island	
Navy:	
Naval Education and Training Center, Newport.....	11
Naval Justice School, Newport.....	11

	Page
South Carolina	
Army: Fort Jackson	181, 373, 386, 395
Navy:	
Charleston Naval Shipyard	12, 285, 326, 338
Marine Corps Recruit Depot, Parris Island	9
Naval Station, Charleston	10, 296, 338
Naval Supply Center, Charleston	12
Naval Weapons Station, Charleston	12, 49, 337, 338
Air Force:	
Charleston AFB	20
Myrtle Beach AFB	22
South Dakota	
Air Force: Ellsworth AFB	21, 373, 376, 386, 392
Tennessee	
Army:	
Holston Army Ammunition Plant	4
Milan Army Ammunition Plant	4
Navy:	
Naval Air Station, Memphis, Millington	11, 284
Arnold Engineering Development Center	19, 378, 429
Defense Depot, Memphis	28
Texas	
Army:	
Corpus Christi Army Depot	3, 47, 276
Fort Bliss	3, 209, 446
Fort Hood	2, 208, 210, 229, 250, 276
Lone Star Army Ammunition Plant, Texarkana	47, 276
Longhorn Army Ammunition Plant	4
Red River Army Depot	4, 47, 250, 276
Air Force:	
Bergstrom AFB	22
Brooks AFB	19
Carswell AFB	21, 373, 386, 415
Dyess AFB	21
Kelly AFB	18
Laughlin AFB	19
Randolph AFB	19, 35
Reese AFB	19
Sheppard AFB	19, 155
Navy:	
Naval Air Station, Chase Field	11, 33
Utah	
Army:	
Fort Douglas	2
Tooele Army Depot	4
Defense Depot, Ogden	28
Virginia	
Army:	
Cameron Station	4
Fort Belvoir	2, 28
Fort Eustis	3, 248, 276
Fort Lee	3
Fort Myer	4
Fort Pickett	3
Fort Story	3
Radford Army Ammunition Plant	4
Navy:	
Fleet Combat Training Center, Atlantic, Dam Neck	11
Marine Corps Development and Education Command, Quantico	6
Naval Air Station, Oceana	10
Naval Amphibious Base, Little Creek	10
Naval Station, Norfolk	10
Naval Supply Center, Norfolk	13
Naval Surface Weapons Center, Dahlgreen	13
Naval Air Rework Facility, Norfolk	13
Norfolk Naval Shipyard, Portsmouth	14

Virginia—Continued	
Air Force:	Page
Langley AFB	22
Pentagon Building	20
Classified Activity, Fort Belvoir	2, 28
Defense General Supply Center, Richmond	28
Washington	
Army: Fort Lewis	2, 35
Navy:	
Naval Submarine Base, Bangor, Bremerton	10
Naval Undersea Warfare Engineering Station, Keyport	13
Puget Sound Naval Shipyard, Bremerton	12, 284, 326, 333
Air Force:	
Fairchild AFB	21, 373, 386, 395
McChord AFB	20
Wisconsin	
Army: Fort McCoy	248
Wyoming	
Air Force: Warren AFB	21
OUTSIDE THE UNITED STATES	
Cuba	
Navy: Guantanamo Bay Naval Base	29
Canal Zone	
Air Force: Howard AB	50
Egypt	
Various locations	5, 23, 147, 152, 189, 207, 225, 226, 231, 390, 391, 431, 432
Germany	
Air Force:	
Landstuhl AB	29
Rhein-Main AB	23
Dexheim	29
Fulda	29
Patch Barracks, Vaihingen	28
Schwaebisch Hall	29
Vilseck	29
Defense Property Disposal Office, Kaiserslautern	29
Various locations	6, 24
Greece	
Air Force: Hellenikon	24
Greenland	
Air Force: Thule AB	23
Iceland	
Navy:	
Naval Communication Station, Keflavik	16
Naval Station, Keflavik	15
Indian Ocean	
Navy: Naval Support Facility, Diego Garcia	16
Air Force: Diego Garcia AB	23
Italy	
Navy: Naval Air Facility, Sigonella	16
Air Force: San Vito AS	24
Japan	
Navy: Fleet Activities, Yokosuka	16
Air Force:	
Kadena AB	23
Misawa AB	29
Yokota AB	29
Various locations	5
Kenya	
Navy: Naval Activities	16, 152, 187, 318, 319
Korea	
Army: Various locations	5, 6, 23, 29, 50, 153, 155, 172, 206, 209, 390
Air Force:	
Osan Air Base	23
Taegu Air Base	50
Kunsan Air Base	23
Kwang-Ju Air Base	23
Pusan	29
Seoul	29

	Page
Kwajalein	
Army: National Missile Range.....	5
Liberia	
Air Force: Roberts International Airport.....	50
Mariana Islands	
Navy:	
Naval Communications Area Master Station, Western Pacific,	
Guam.....	338
Defense Installation.....	15
Netherlands	
Camp New Amsterdam.....	24, 172, 409
New Zealand	
Navy: Circle Transit Station, Blenheim.....	15
Oman	
Air Force: Various locations.....	24, 152, 187, 226, 324, 390, 435, 436
Persian Gulf-Indian Ocean	
Various location.....	23, 152, 170, 172, 318
Portugal	
Air Force: Lajes Field.....	23, 190, 390, 432, 433
Puerto Rico	
Navy: Naval Communications Station, Ponce.....	16
Republic of the Philippines	
Air Force: Clark Air Base.....	23
Navy:	
Naval Air Station, Cubi Point.....	15
Naval Ship Repair Facility, Subic Bay.....	16
Naval Station, Subic Bay.....	16
Somalia	
Naval Activities.....	16, 152, 190, 226, 318, 320, 324
Spain	
Air Force: Various locations.....	24
Navy: Naval Station, Rota.....	16
Turkey	
Air Force: Incirlik Air Base.....	24, 33
Various locations.....	6, 24, 33, 178, 206, 209
United Kingdom	
Navy:	
Naval Facility, Brawdy, Wales.....	15
Naval Security Group Facility, Edzell, Scotland.....	16
Air Force:	
Croughton Royal AFS.....	29
Various locations.....	24
Greenham-Common.....	33
Mildenhall.....	35
Upper Heyford.....	35
Various locations.....	15, 16, 24, 29, 33, 35, 155, 172, 226, 285, 374, 388, 408, 409
Wake Island	
Defense Fuel Support Point.....	29, 153